Study on microwave drying technology of rape flower

ABSTRACT: The application of rapeseed flowers has attracted more and more attention. However, little research has been done on the drying of rapeseed flowers, especially the microwave drying of rapeseed flowers.

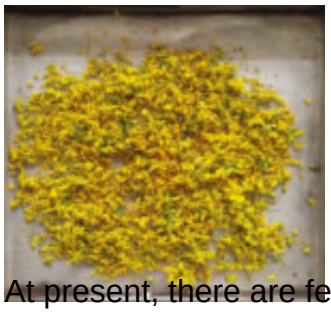
The effect of power of microwave drying equipment on drying speed and quality of rapeseed flower was studied. It was concluded that microwave drying speed, quality and color of rapeseed flower were faster than hot air drying. Because rapeseed petals are small, the power density of microwave drying is much higher than that of peony petals, and the upper limit of power density is 31.4 W/g.

Key words: rape flower microwave drying; power density; drying quality; color; power density upper limit.

Rapeseed is one of the main oil crops in China, and is widely planted throughout the country. Every year in March and April, rapeseed flowers blossom. Beautiful scenery not only forms excellent tourism resources, but also provides a large number of raw materials for food, medical and other industries.

Rapeseed flower is rich in polysaccharides, carbohydrates, vitamins, amino acids and trace elements such as calcium, iron, zinc and selenium. Among them, pollen polysaccharide has a strong immune enhancement, has a significant anti-cancer effect, trace element selenium has anti-aging effect. Therefore, rapeseed flower has high nutritional value and is a good health food, which has been paid more and more attention.

However, rapeseed flowers have short flowering period, high water content and small petals. Fresh rapeseed flowers are very vulnerable to mildew and deterioration if there is no proper treatment after harvesting. And low temperature and energy consumption, large footprint, and difficult to transport. Therefore, it is particularly important to study the drying technology of rape flower.



At present, there are few studies on the drying technology of rapeseed flowers, especially the application of microwave drying technology to the drying of rapeseed flowers. There is no paper on this aspect. Microwave drying is fast, efficient, selective heating, easy to achieve automatic control, can be shut down at any time according to the actual production, especially suitable for seasonal agricultural products. Starting with microwave drying technology, this study provides a beneficial attempt for the drying of rapeseed flowers, especially for the microwave drying of rapeseed flowers.