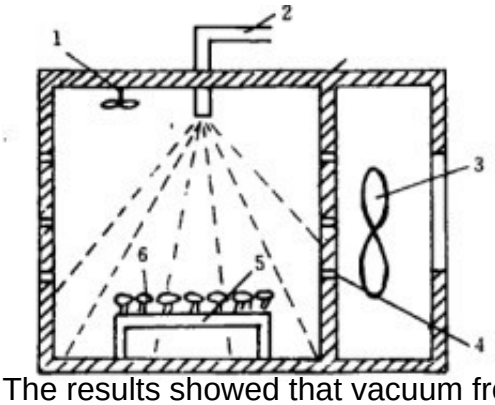
Effect of Different Drying Methods on Quality of Toona sinensis Sprouts

Absrtact: The effects of four drying methods on the quality of Toona sinensis sprouts were studied by sensory evaluation and determination of main nutrient contents, including hot drying, microwave drying equipment, vacuum drying and vacuum freeze drying.



The results showed that vacuum freeze-drying could maintain the main nutritional components of Toona sinensis seedlings and sprouts to the greatest extent. After drying, the chlorophyll content in Toona sinensis sprouts reached 14.0081 mg g-1, the vitamin C content reached 2.6203 mg g-1, the amino acid nitrogen content reached 24.3340 mg g-1 and the protein content reached 24.3340 mg g-1. It reached 79.0076 ug, which was higher than other drying methods, and the sensory quality of dried Toona sinensis sprouts was better. The comprehensive effect of vacuum drying was slightly worse than that of vacuum freeze drying. Microwave drying consumed more vitamin C, and the comprehensive effect of microwave drying was worse than that of hot drying.

Key words: microwave drying Toona sinensis; nutritional components; sensory quality

Toona sinensis is a precious woody vegetable in China. It can be cultivated soilless with Toona sinensis Seeds under light conditions. It has the characteristics of crispness, tenderness, fresh green and strong fragrance. Toona sinensis seedling sprouts are mostly used as condiments for salad vegetables. However, it is not easy to keep fresh after sale and before consumption, even in the refrigerator, the effect is not ideal.

The proper drying method and technology for Toona sinensis sprouts can not only maintain its original color, fragrance, taste and nutritional components, but also be easy to preserve and carry. It can be used as ready-to-eat, convenient condiment and has great practical value.

Different drying methods will have different effects on the quality of Toona sinensis seedlings and sprouts. Four drying methods, hot air drying, microwave drying, vacuum drying and vacuum freeze-drying, were used to carry out drying experiments, in order to find suitable drying methods and provide technical support for its drying and processing.

Compared with different drying methods, vacuum freeze-drying can keep the color, shape and aroma of Toona sinensis seedlings and sprouts better. After drying, the change rates of the three basic color values of Toona sinensis seedlings and sprouts were 0.44%, 0.72%, 0.24%, and the change rates of length and diameter were 4.10%, 32.02%, respectively, which were better than other drying methods. Method.

After vacuum freeze-drying, the rehydration rate of Toona sinensis sprouts was 51.05%, which was higher than other drying methods, and the color, shape and fragrance of Toona sinensis sprouts were better restored after rehydration. In terms of nutrient composition, the main nutrient content of Toona sinensis sprouts after vacuum freeze-drying was higher, with chlorophyll content reaching 14.0081 mg.g- 1. The content of vitamin C was 2.6203mg/g-1, the content of amino acid nitrogen was 24.3340mg/g-1, and the content of protein was 79.0076 ug, which was higher than other drying methods. Vacuum freeze-drying is a feasible and practical method for drying sprouts of Toona sinensis seedlings.