

## Research Status of Nut Drying (2)



As a kind of agricultural material integrating nutrition, medicine and economy, the research of [microwave drying machinery](#) technology is of great significance to the development of nut industry.

### [Nut dryer](#)

The sugar and color of macadamia nuts during drying or baking. It is believed that the main storage technique of macadamia nuts is dry. During this process, the water in the nuts is effectively removed, which reduces the activity of the enzyme and inhibits the chemical reaction. In the inside of the nuts; low temperature drying, the sugar content of the nuts has no significant effect on the quality of the product, high temperature drying will cause the browning reaction of the nuts; the incompletely mature nuts have more sugar than the mature nuts high.

The study also found that microwave drying technology did not cause much damage to the quality of the nuts, color and other qualities. Microwave drying technology, experiments show that the quality of microwave dried nut kernel products is affected by microwave power and initial moisture content of nuts.

Hot air - Microwave drying technology can effectively reduce drying time and shorten the drying cycle. Through the detection of the quality of the nut products, it was found that the quality of the nuts obtained by the hot air-microwave drying technology was not significantly different from that of the traditional dry products. Moisture content and temperature are the main factors affecting the long-term stable storage of macadamia

nuts.

Compared with the traditional mesh drying method, the forced drying of the fan combined with the hot air can effectively reduce the drying time of the macadamia nuts and improve the drying quality of the nuts. The effect of temperature-controlled microwave drying on peanuts successfully solved the problem of peanut drying quality.

Foreign research on drying technology started earlier, and the scale of development is relatively large. The application fields cover all walks of life. A large number of foreign scholars are dedicated to the research and development of drying technology, and many professional companies have standardized the drying equipment. However, research on drying technology in the field of nuts is extremely scarce, and research has been limited to macadamia nuts, peanuts and walnuts.

Domestic research on nut processing technology began in the late 1970s. For a variety of reasons, nut processing, drying technology and equipment have broken through. Domestic research on nuts has focused on seed selection, breeding and cultivation. Studies on nut drying techniques are also scarce, with little research on traditional crops such as chestnuts and walnuts, and less literature on other nut drying techniques.

#### Problems with nuts drying

China's research on nut processing technology started late and developed slowly. Many places still use traditional drying technology, which can not adapt to the development of the existing nut industry in China, such as breeding, breeding and cultivation, and can not meet the further processing of nut products. Claim.

#### Lack of talent for studying nut dryness

Dry nuts are a big problem in front of researchers. It is urgent for a large number of researchers to conduct in-depth research on the drying of nuts and develop drying processes and technologies suitable for China's national conditions.

#### Dry equipment is outdated and lacks versatility

Nut drying equipment has low technical content, small scale and not mature enough. Most of the nuts are mainly dried by traditional methods, which not only have a long drying cycle, high cost, but also affect the quality of nuts. There are many kinds of nuts and different properties. The existing drying technology lacks versatility and practicability in the nut field. The traditional drying technology produces nuts with low quality and poor quality. It needs special improvement according to various varieties of nuts. Innovative design.

## Future prospects

Nuts are economic crops with high nutritional value and medicinal value, which are favored by consumers. As far as the huge market is concerned, China needs specialized, large-scale, factory-based production and processing, and the development of nut drying technology.

### Strengthen the innovation of drying technology

On the one hand, we learn advanced foreign drying technology, improve and innovate on the basis of studying the physical and chemical properties of nuts in China, and realize the localization of drying technology. On the other hand, we must actively develop nut drying technology with independent intellectual property rights.

### Increase efforts to develop drying equipment

Strengthen the research on the theory and experiment of nut drying characteristics, and make it develop in the direction of intensification, intelligence and integration, systematically develop new drying equipment, and promote the vigorous development of nut drying industry.