

# Effect of Radio Frequency Heating on Hotness of Pepper Powder

The effect of different radio frequency treatment conditions on capsaicin content and hotness in chilli powder was studied. The effect of different initial moisture content of chilli powder was further studied.

[Small microwave paprika drying oven for sale](#)

The results show that radio frequency treatment (70-90 C)

[Microwave drying machinery and equipment](#)

0-5 min had no significant effect on capsaicin content and hotness in capsicum powder ( $p > 0.05$ ), and different initial water activities had different effects on capsaicin content and hotness ( $p > 0.05$ ). (0.40, 0.54, 0.71) had no obvious effect on it.

The results showed that the hot degree of chilli powder could be well preserved by radio frequency treatment. Radio frequency sterilization technology has a good application prospect in the sterilization of chilli powder.

Due to various problems in the processing and transportation of chili powder, it is easy to cause the microbial content of chili powder to exceed the standard [1]. Commonly used sterilization methods include chemical fumigation, irradiation, high-pressure steam, etc. [2], but these methods all exist to some extent.

Disadvantages. Radio frequency (RF) is a new food processing technology, which has the characteristics of rapid and integral heating. At present, radio frequency technology has been extensively studied in the field of food sterilization, especially in the field of low moisture food sterilization, such as

Pepper powder, milk powder, peanut butter, almonds, etc. [4-7]. Other studies have shown that in the process of RF sterilization, besides temperature and time, the initial water activity of materials also affects the sterilization effect [8].

Capsaicin, also known as capsaicin, is a very pungent vanillin amide alkaloid [9] in capsicum, which provides more than 90% of the pungency and heat [10]. The main components are capsaicin and dihydrocapsaicin, accounting for more than 90% of the total capsaicin [11]. Hotness is one of the important indexes to evaluate the quality of pepper.

The chemical properties of capsaicinoids are usually stable, but the effects of different treatments on capsaicinoids content in pepper are also different [12,13]. At present, there is no research report on the influence of radio frequency treatment on hot pepper powder. Therefore, this paper will focus on the effect of radio frequency treatment on capsaicin content and its spicity degree in capsicum powder with different water activity.

