

# Does microwave kill nutrients in food?

In today's increasingly fast-paced life, fast and convenient microwave food has undoubtedly become the "favorite" of many people. [Industrial Microwave Food Process](#) is no longer a rare thing, and there is no denying that the microwave oven has greatly facilitated our lives. So, **Does microwave kill nutrients in food?** What effect does it have on the nutrients in food?

First, we need to understand how microwaves work. Microwaves are actually just a mechanism for converting electrical energy into short-wave energy, which selectively targets water molecules in food, causing them to vibrate and quickly release heat. Microwaves are a type of electromagnetic radiation similar to radio waves and infrared rays, and microwave ovens are used to steam, defrost and heat food efficiently.

In fact, any form of cooking and processing methods, including heating and cooling, will cause changes in the physical properties, chemical composition, and nutritional characteristics of food. Therefore, it is important to choose a reasonable and scientific way of cooking food to meet the color and flavor while taking in more nutrients from the food.

Microwave cooking does not make the loss of nutrients faster and more serious than traditional cooking. At the same time, in the protection of nutrients such as vitamins and minerals that are sensitive to heating time, the effect of microwave heating is significantly stronger than open fire heating. Some studies have proved that when using the microwave to cook vegetables, fruits, and other foods, because of the short heating time to reach the same central temperature, the loss of vitamin C, flavonoids, and chlorophyll is smaller.



## **The effect of microwave on food nutrients**

### **1, the effect on protein in food**

Microwave treatment on the protein content of milk does not significantly impact the amino acids in soy sauce is also no damage decomposition, and appropriate microwave treatment can also improve the nutritional value of soy protein.

### **2, the impact of fat in food**

Proper microwave treatment will not destroy the nutritional value of fatty acids. However, if the treatment time is too long or the intensity is too high, it may cause the peroxidation of free fatty acids. Microwave heating can significantly reduce the activity of soybean fat oxidase. Therefore, when extracting soybean oil, pre-treatment with microwaves before milling will help prevent soybeans rich in unsaturated fatty acids oxidized by fat oxidase and ultimately improve the nutritional value of soybean oil.

### **3, the impact of microwave treatment of carbohydrates in food**

Carbohydrates in food in the microwave environment will occur in a series of reactions, such as the Merad reaction, sugar caramelization. Microwave treatment of sweet potatoes in ethanol-soluble total carbohydrate content, reducing sugars and dextrin content is less than the convection oven-treated sweet potatoes, while the starch content is just the opposite.

#### 4, the impact of microwave treatment of vitamins in food

Due to the short time and high efficiency of microwave heating, it is very conducive to preserving vitamins in food to a large extent. Vitamin B1 and vitamin B6 with the B vitamins in the heat-sensitive vitamins are easily destroyed in the traditional food processing process. With the use of microwave-baked products, vitamin B1 and vitamin B6 can be well preserved.



In the **Industrial Microwave Food Proce** process, the microwave equipment can quickly heat food, and microwaves can be turned into heat in seconds. Microwave equipment has the characteristics of selective heating, can be more evenly

heated food. Because the microwave is easily absorbed by the material containing water, so there is little waste. In addition, the microwave also has the role of sterilization, which can well protect the nutrients in the food.