Reports on the research results of vacuum frying

Vacuum Fryer Machine丨Continuous Food Fryers

Follows are some reports on the research results of vacuum frying

Several studies have shown that less oil is absorbed during the vacuum frying process (Garayo and Moreira, 2002; Krupanyamat and Bhumiratana, 1994; Choodum and Rojwatcharapibarn, 2002; and Yamsaengsung and Rung see, 2003). It has been suggested that the pressure difference between the internal pressure of the product and the vacuum pressure of the fryer help to reduce the amount of surface oil present at the end of the frying process, which in turn limits the total amount of oil absorbed.

Another important advantage of vacuum frying is the reduced temperature which helps to maintain the natural coloration of the product while minimizing the loss of vitamins and minerals. In atmospheric frying, products are generally fried at 160-190¬℃, and water inside the product evaporates at approximately 100℃ depending on the presence of dissolved components; on the other hand, under vacuum, the boiling point of water can be reduced to as low as 35-40¬℃, thus the frying temperature can be as low as 90- 100¬℃. Shyu and Hwang (2001) found that the optimum conditions for the frying of apple chips were at a pressure of 3.115 KPa, a frying temperature of 100-110¬℃, a frying time of 20-25 min, and a concentration of immersing fructose solution of 30-40%.

In addition, Garayo and Moreira (2002) found that potato chips vacuum fried under 3.115 KPa and 144¬℃ had more volume shrinkage and were slightly softer, and lighter in color than the potato chips fried under atmospheric conditions (165¬℃). Yamsaengung and Rungsee (2003) also found that compared to atmospheric frying, vacuum fried potato chips retained in a more intense flavor and color.

Vacuum frying is an alternative method to the deep frying that offers the health benefits of humans. Vacuum frying offers an alternative way to improve the quality of fried fruit and vegetables other than by atmospheric frying (Dueik and Bouchon, 2011a).

Dueik and Bouchon (2011a) showed that vacuum frying significantly lowered the final oil content in comparison to atmospheric fried and it also slowed the rancidity of the oil. Most of the benefits of vacuum frying from the use of low temperatures and the minimal exposure to oxygen reduce the adverse effects on the oil quality (Shyu et al., 1998).

The vacuum frying can reduce oil content in the fried product. Because the oil is absorbed less due to the difference between the pressure inside of product and the pressure vacuum frying can eliminate the oil sticks on the surface of the product in the final stages of frying.(Garayo& Moreira, 2002).

The product can keep the natural color, flavors (Shyuand Hwang, 2001) and limit the loss of vitamins and minerals when fry in vacuum condition that are beneficial of the product due to the low temperature and oxygen content during the process (Da Silva và Moreira, 2008).

Garayo and Moreira and Tychy (2004) demonstrated that vacuum frying could produce fried starchy products with a much lower acrylamide content than their counterparts fried at atmospheric pressure.

Back To: Buy Vacuum Frying Machine Online

Refer to: Batch Vacuum Fryer | Low Fat Chip Fryer

Vacuum Fryer Machine | Continuous Food Fryers

Product link：https://www.french-fries-machine.com/product/reports-research-results-vacuum