Quality control of frozen potato strip production process (1)

Quality control during raw material storage

The production of French fries products requires strict reduction of the reducing sugar content of raw potatoes. According to the research results of potato storage methods by European and American companies, it is confirmed that the potato can effectively control the increase of reducing sugar in potato by reasonable adjustment of cooling/heating rate during storage.

Microwave drying machine

The typical procedure used is to keep the daily temperature drop within the first 4 weeks after the potato is stored in the range of not more than 0.3 °C, so that the temperature of the potato block slowly drops to the storage temperature to prevent the reducing sugar from rising. It takes more than 2 weeks to gradually increase the temperature to the temperature required for processing, which can effectively control the increase of reducing sugar.

Potato storage conditions are 4 ~ 8 °C, relative humidity is 90, proper ventilation, avoiding light, spraying inhibitors, under this condition, the potato dormancy period can reach 180 d. French fries machine production line

Quality control during processing

Selection of raw materials: The choice of raw materials has a direct impact on the quality of the finished products. Therefore, the raw materials for the production of potato frozen French fries must be single-type, pure, free of germinated, frostbite, green and diseased decayed potatoes.

For different varieties of potatoes, the dry matter content should be high, oval, white color, light or flat. The dry matter content is generally required to be above 21; the reducing sugar content is preferably below 0.25; the length is not less than 78 mm, and the single weight is not less than 160 g.

Cleaning of raw materials: The surface of the raw materials can be further cleaned by spraying and rubbing the raw materials. In production practice, potatoes can be delivered to the washing machine through a flow tank.

Peeling: Potato peeling is often done by mechanical peeling, steam peeling and chemical peeling. Generally, large-scale industrial production uses a steam peeling machine with a steam pressure of 12 to 20 kg/m2. The higher the pressure, the thinner the peeling layer. Each steaming time is 10 to 15 s and the processing time is 90 s.

The production line is continuous, but the feed is intermittent. A steam collector is needed to quickly supply steam, rotate 5~6 r/min, then dry brush, wash the skin and wash with water. Mechanical peeling is generally used for small production lines, and the loss of raw materials is large. There is no requirement for the shape of the lye peeling. Generally, the lye concentration is 8 , the temperature is 95°C, and the time is 5 min.