

The application of cereals in sports nutrition foods in China (3)

Application of grain in the development of sports nutrition food

Traditional sports nutrition foods mainly include the addition of some plant active ingredients or some functional components to enhance the immunity and relieve physical fatigue. With the deepening of the understanding of the nutritional value and health effects of cereals, various studies on the development of sports nutrition foods are gradually being carried out.

[Microwave drying machine](#)

Application of grain in solid sports food



At present, solid sports foods are mainly food bars and food gels. Depending on the application, food bars are divided into energy bars, protein bars and slimming bars. The food bar originated in 1985 and was developed by the wife of a marathon runner. Since then food bars have become more familiar, and the industry has grown rapidly. [Cereal bar machine](#)

In fact, the food bar is mainly used to supplement the physical fitness of athletes or amateur athletes. Therefore, its ingredients are mainly high-calorie raw materials such as carbohydrates and proteins. Studies have shown that cereals are rich in carbohydrates and protein resources and are the preferred raw materials for the production of food bars. As a result, research on the production of food bars has gradually increased.

Liu Shaowei and other corn flour, soybean powder, brown rice flour, buckwheat flour are mixed and extruded, and then added to the auxiliary material to be baked to make a puffed grain energy bar with moderate hardness and good brittleness. The product has a balanced nutritional mix, high dietary fiber, high energy, and fast absorption by the human body. It is a new type of energy bar that is nutritious and healthy.

Shi Yanguo et al. compounded soy protein concentrate and corn gluten meal as raw materials, and then developed a protein bar by modifying the protein material. The results showed that: Emulsified soy protein and emulsifying corn protein were used as raw materials, and with appropriate proportion of sugar, the ideal protein bar could be obtained by extrusion.

Energy gel is a kind of sports nutrition food mainly composed of carbohydrates. The grain is rich in carbohydrate resources, so it is the main raw material for energy gel production.

The potato starch was enzymatically hydrolyzed into maltodextrin as raw material, and the energy gel was prepared through the optimization of the formulation process. At the same time, the energy gel had the effect of supplementing energy through mouse experiments. The hydrolysis product of corn starch under enzyme catalysis was used as raw material. With the addition of trace elements, starch energy gel was developed through process optimization.

With the continuous exploration of scholars, some protein peptides are also used in the development of sports nutrition food energy gel, using wheat peptide as the main raw material to develop a sports nutrition food energy gel. The research results show that the prepared energy gel has good quality and can effectively prevent and alleviate sports fatigue in animal motion model.