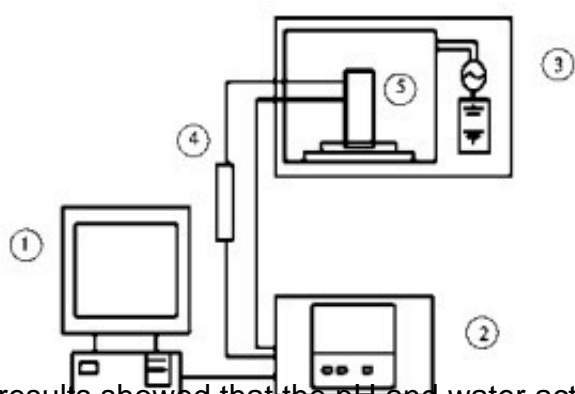


Effects of constant temperature drying on quality and biogenic amines of fermented mutton jerky

Abstract: The pH, water activity, tenderness and color difference of dried mutton dried by three drying methods, i.e. constant temperature drying, frying and microwave drying, were determined. The types and contents of biogenic amines in dried mutton fermented by three drying methods were determined by high performance liquid chromatography in order to compare the quality changes and biogenic amines contents of dried mutton dried by three drying methods.



The results showed that the pH and water activity of fermented mutton dried at constant temperature were significantly lower than those of frying and [microwave drying equipment](#) (p

Key words: [dried mutton microwave drying](#); meat quality; biogenic amines



Mutton is a traditional dual-purpose, nutritious and characteristic meat food. Because of its rich nutrition, it belongs to low fat, low cholesterol and high protein nutritional food, rich in vitamins needed by the human body. Traditional Chinese medicine holds that mutton warms up heat, invigorates Qi and nourishes yin, invigorates kidney in warmth, invigorates appetite and invigorates spleen, and invigorates deficiency and labor.

With the continuous improvement of people's living standards, consumers are increasingly demanding high-quality, multi-nutrient meat products and their safety. Fermented meat products are popular among consumers because of their high nutritional value, good color, unique flavor and digestibility. Fermented meat products are manufactured by probiotic fermentation under artificial and natural control conditions.

Beef jerky is a traditional meat product in China. Beef jerky has a long history in China. As early as Genghis Khan established the Mongolian Empire, Mongolian cavalry and beef jerky had an indissoluble bond, access only to drink, or slaughter sheep for food. With the continuous development and progress of modern technology, lamb lean meat can be fermented, preboiled, seasoned, re-boiled, dehydrated and dried to produce fermented dried meat products with attractive color, rich nutrition, unique flavor, durable storage, easy to eat and popular with consumers. However, raw meat is a protein-rich food. When dried meat is produced, high temperature treatment will form a class of carcinogenic and mutagenic substances - biogenic amines.

By comparing the dried mutton dried by three different ways, the fermented mutton dried by constant temperature drying has lower pH, lower water activity, less harmful microorganism growth and reproduction, and is conducive to prolonging the shelf life of storage. The shearing force is bigger, and the color is more ruddy, which can cause more appetite and consumption of customers.

The content of biogenic amines in dried mutton is less than that in dried mutton. The reason why the content of fried histamine is higher is that meat produces more heterocyclic amines and polycyclic aromatic hydrocarbons in the frying process. In a word, mutton dried at constant temperature has better color, higher nutritional value and safety factor.