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NUTRITIOANAL VALUE AND COMPOSITION OF BEEF

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Abstract
The article provides information about the chemical composition of meat, its nutritional value, such as age, gender, obesity, type of feed consumed and their nutritional value.

Keywords: meat calories, lean goods, laxm meat, meat characteristics of cattle, marble from meat, myosin.

Introduction

The nutritional value of meat is determined by a number of factors, including the animals' age, gender, obesity, the type of food they eat, and their nutritional value.

Beef is consumed as a valuable and tasty food product and occupies a significant place in products. The nutritional value of beef depends primarily on the content of proteins, fats and calories in it. Average carcass weight 51-53%, fat content 2-14%, bones 18-30% [1].

Calorie content of meat Experiments have shown that the calorie content of meat is about 1200-2800 kcal or more per kilogram, depending on its quality, leanness, method of feeding, nutritional value, age, gender, physiological state, etc.

Lean beef has an average fat content of 3.30 percent, while fat can go up to 23.0 percent. At the same time, the share of lean cattle is 14.0%, and high-fat - only 9.6% [2-4].

The amount of chemicals in lean meat depends on the fat content of the cattle. Experiments have shown that the higher the fat content of cattle, the lower the content of water (68.5%) and protein (17.6%) in its meat, and the higher the fat content (23.0%) and total calorie content (2850 kcal).

High-quality meat is grown mainly from all meat breeds (Kazakh White, Santa Gertrude, Aberdeen Angus, Herefort, Kalmyk, etc.). Because these breeds specialize only in meat products. The quantity and quality of meat in an animal

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carcass can be assessed by estimating the lifespan of the animal. With this method, the fatness of cattle is determined by the full fleshiness of the thighs, the flatness or unevenness of the shoulders, as well as the width and general appearance of the body [5-8].

Special methods are used to describe the meat characteristics of cattle. At the same time, the method of weighing and counting meat after slaughter is accurate and convenient. Basically, two indicators are taken into account: slaughter weight and slaughter consumption.

The carcass of slaughtered cattle is divided into several groups, separated from other tissues (fat, stakes, bones, etc.): boneless carcasses or carcasses of meat; lean meat or boneless meat; These include black meat or meat that has been cleaned of fat, fat, fat, and lymphatic vessels [9-12].

The bulk of the meat is muscle tissue, which is much softer, digested faster and better absorbed by young animals. The meat of older cattle is much harder, thinner and coarser. Therefore, it takes a long time to cook. The digestibility of such meat is lower than that of young animals. Therefore, in foreign countries, young beef is several times more expensive than large beef.

As a general rule, fat cattle have more meat, lean cattle have less meat, young cattle have less meat, and older cattle have more meat. However, males have been found to have more meat than females.

Fat is more common in cattle, mostly under the skin and around the kidneys and bladder, and around the stomach and intestines. This feature is best expressed in cattle [13-16].

Another way to determine the quality of beef is more convenient. For example, the main indicator is whether the meat has a marbled appearance. When we say marbled meat, fat and muscle tissue are expressed in layers in it. This meat is very tasty and nutritious.

According to the literature, lean meat contains 72-75% water and 25-28% dry matter. However, almost 80% of the dry residue is protein, 5% fat and 1.0-1.2% minerals, vitamins, enzymes and hormones. Eighty-five percent of meat protein consists of complete amino acids [17-18].

Marbling of meat is mainly expressed in beef cattle. Therefore, their meat is softer, more nutritious, tastier and more digestible than that of beef and dairy cattle. Observations show that a high fat content in meat impairs the taste of meat and makes it difficult to digest.

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Myosin is the most important protein in meat and plays an important role. According to this, almost 35-40% of all proteins in meat are accounted for by myosin [19-21].

Actin makes up 12-15% of the protein in meat. It is found in meat in the form of fibrillar and spherical. Meat also contains proteins such as globulin, myogen and myalbumin. Among them, globulin makes up 10-20 percent of all proteins. Meat also contains very complex nucleoproteins. These include ribonucleic and deoxyribonucleic acids, elastin, collagen, and mucoproteins [22-23].

According to the latest data, beef can contain between 3% and 35% fat depending on how lean it is. Also found all kinds of minerals (potassium, sodium, calcium, magnesium, iron, etc.). Phosphorus and copper play an important role in it.

Observations show that as the amount of fat in meat increases, the amount of minerals in it decreases. The presence of various vitamins in meat (thiamine V1, riboflavin V2, nicotine RR1, biotin N, choline, cobalamin V12, folic acid) is an important factor in increasing its value [24].

Proteins in foods can change significantly during cooking (cooking). The nature of protein changes depends on the structure of protein molecules and their state in the product.

Proteins can be divided into globular and fibrillar, depending on the structure of the molecules. Almost all soluble proteins are classified as globular proteins, proteins insoluble in neutral solvents (elastin, collagen) are fibrillar) [25].

As the temperature rises, the thermal vibrations of some amino acid residues in the chain increase, the hydrogen bonds between them break, and some of the chains rearrange. Such a change in the structure of globular protein molecules is called denaturation [26]. Denaturation changes the specific configuration of protein molecules, the surface relief, the arrangement of polar and non-polar groups, and, consequently, the original properties of the protein. Denaturation results in the following major changes:

1) As a result of the rearrangement of polar groups, the ability of proteins to bind polar water molecules decreases and the protein loses its ability to suffocate;

2) Rearrangement of active groups reduces the ability of most proteins to bind polar water molecules and significantly reduces the ability of proteins to suffocate;

3) Proteins lose their ability to dissolve.

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As a result of denaturation, proteins coagulate. Here's how it goes. The aqueous protective membrane on the surface of the protein particles is destroyed during denaturation, causing the particles to stick together easily. Proteins can coagulate in two types.

1) If the protein concentration is low, it forms pieces of folded protein (for example, meat and fish soup, coarse protein on the surface of vegetable broth, etc.);

2) If the concentration of proteins is high, then when frozen, they usually form a thick solid mass (gel); for example, egg whites thicken and harden when cooked.

When fibrillar proteins (collagen, etc.) are heated, other changes occur. Polypeptide chains are elongated and linked to each other by hydrogen bonds. When heated, the thermal motion of the polypeptide chain increases and the hydrogen bonds between them break, resulting in two different phenomena;

1) Separation of protein fibrils (fibers) into separate chains of amino acids;

2) The breaking of internal bonds ("maturation") leads to a shortening of the long chain of amino acids.

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