

THIS REPORT CONTAINS ASSESSMENTS OF COMMODITY AND TRADE ISSUES MADE BY
USDA STAFF AND NOT NECESSARILY STATEMENTS OF OFFICIAL U.S. GOVERNMENT
POLICY

Voluntary Public

Date: 12/12/2013

GAIN Report Number: RS1390

Russian Federation

Post: Moscow

Russia Finalizes New National Standard for High Quality Beef

Report Categories:

Trade Policy Monitoring
FAIRS Subject Report
Livestock and Products

Approved By:

Christopher Riker

Prepared By:

Mikhail Maksimenko

Report Highlights:

On June 25, 2013, the Federal Agency for Technical Regulation and Metrology approved a national standard for “High Quality Beef” (GOST R 55445–2013). The new national standard will come into force on July 1, 2014. In the standard, High Quality Beef (HQB) has been defined as: high-quality chilled beef intended for retail and use in public catering as cuts: back-on-bone cuts, back boneless cuts, loin-on-bone cuts, loin boneless cuts, lumboiliac muscle (tenderloin); top hip boneless cuts; and shoulder boneless cuts.

General Information

On June 25, 2013, the Federal Agency for Technical Regulation and Metrology approved a National Standard for “High Quality Beef” (GOST R 55445–2013). The new standard will come into force on July 1, 2014.

The Ministry of Agriculture was tasked with developing the national standard for HQB and defined it as chilled, not frozen, beef, with a recommended shelf life in vacuum packed cuts, stored at a temperature ranging from “minus” 1oC to “plus” 4oC, of no more than 25 days from the date of slaughter, but which includes at least 5 days of aging at the establishment.

Shelf life and storage conditions should be established by the manufacturer.

Following is an unofficial translation of the national HQB definition available, in Russian, online at: <http://protect.gost.ru/v.aspx?control=8&baseC=6&page=1&month=10&year=2013&search=&RegNum=1&DocOnPageCount=15&id=176068>

**FEDERAL AGENCY ON
TECHNICAL REGULATION AND METROLOGY**



**GOST R
55445– 2013**

**NATIONAL
STANDARD OF THE
RUSSIAN
FEDERATION**

**MEAT
HIGH QUALITY BEEF
Specification**

Official Edition

Introduction

1 DEVELOPED by the State Science Institution the All-Russia Research Institute of the Meat Industry named after V.M.Gorbatov of the Russian Academy of Agricultural Sciences (GNU Gorbatov VNIIMP Rosselkhozakademii), the State Science Institution the All-Russia Livestock Research Institute of the Russian Academy of Agricultural Sciences (GNU VIZh Rosselkhozakademii) and the State Science Institution the All-Russia Beef Cattle Research Institute of the Russian Academy of Agricultural Sciences (GNU VNIIMS Rosselkhozakademii)

2 INTRODUCED by the Technical Committee for Standardization TK 226 “Meat and meat products”

3 APPROVED AND PUT INTO EFFECT by Order No 188-st of the Federal Agency for Technical Regulation and Metrology dated June 25, 2013

4 INTRODUCED FOR THE FIRST TIME

The rules for the use of this standard are established in GOST R 1.0—2012 (section 8). Information on the amendments in this standard are published in the annual (as of January 1 of a current year) information index “National standards”. In case of revision (replacement) or cancellation of this standard, an appropriate notification will be published in the immediate following issue of the monthly information index “National standards”. The appropriate information, notifications and texts are also placed in the public information system – at the official site of the Federal Agency for Technical Regulation and Metrology (gost.ru)

© Standartinform, 2013

This standard cannot be in full or in part reproduced, duplicated and circulated as an official publication without the permission of the Federal Agency for Technical Regulation and Metrology

Contents

Scope of Application.....	1
2 Regulatory References	2
3 Terms and Definitions	3
4 Specification	3
5 Labeling	4
6 Packing	7
7 Rules of Acceptance	7
8 Methods of Control	8
9 Transportation and Storage	10
Appendix A (for reference) Nutritional value of Beef	10
References	11

NATIONAL STANDARD OF THE RUSSIAN FEDERATION MEAT HIGH QUALITY BEEF

Specification

Effective date – 2014–07–01

1 Scope of Application

This standard covers high-quality chilled beef (hereinafter: beef) intended for retail and use in public catering as cuts: back-on-bone cut, back boneless cut, loin-on-bone cut, loin boneless cut, lumboiliac muscle (tenderloin); top hip boneless cut; shoulder boneless cut.

Requirements to the safety of products are specified in 4.1.9 and 4.1.10, requirements to the quality – in 4.1.3 – 4.1.7, to the labeling – in Section 5.

2 Regulatory References

The following regulatory references to standards are used in this Standard:

GOST R ISO 13493–2005 Meat and meat products. Method of chloramphenicol Laevomycesin) detection by liquid chromatography

GOST R 50454–92 (ISO 3811–79) Meat and meat products. Detection and count of potential coliforms and Escherichia coli (arbitration method)

GOST R 50455–92 (ISO 3565–75) Meat and meat products. Detection of Salmonellae (arbitration method)

GOST R 50667–94 Gonadotropic hormones. General specification.

GOST R 51074–2003 Food products. Information for consumers. General requirements

GOST R 51301–99 Food products and food stock. Inversion voltammetric methods for determining levels of toxic elements (cadmium, lead, copper and zinc)

GOST R 51447–99 (ISO 3100-1–91) Meat and meat products. Sampling methods

GOST R 51448–99 (ISO 3100-2–88) Meat and meat products. Sample preparation methods for microbiological tests

GOST R 51478–99 (ISO 2917–74) Meat and meat products. Control test for measuring hydrogen ion concentrations (pH)

GOST R 51766–2001 Raw materials and food products. Atomic absorption method for arsenic detection

GOST R 51289–99 Returnable polymer bags. General specification

GOST R 52427–2005 Meat industry. Food products. Terms and definitions.

GOST R 52901–2007 Corrugated cardboard for packaging products

GOST R 53594–2009 Livestock products and feedstuff. Immunoenzymatic technique for detecting synthetic anabolic growth stimulators

GOST R 54315–2011 Cattle for slaughter. Beef and veal in carcasses, semi-carcasses and quarters. Specification

GOST R 54354–2011 Meat and meat products. General requirements and methods of microbiological analysis

GOST ISO 7218–2011 Microbiology of food products and animal feed. General requirements and recommendations for microbiological tests

GOST 427–75 Metallic measuring rods. Specification

GOST 7269–79 Meat. Sampling techniques and organoleptic methods for freshness assessment

GOST 9142–90 Corrugated cardboard boxes. General specification

GOST 10444.15–94 Food products. Methods of measuring the quantity of mesophilic aerobic and facultative anaerobic microorganisms

GOST 14192–96 Cargo labeling

GOST 15846–2002 Products shipped to the Far North regions and locations equated to them. Packing,

labeling, transportation and storage

GOST 19496–93 Meat. Histological study technique

GOST 21237–75 Meat. Technique of bacteriology analysis

GOST 23042–86 Meat and meat products. Methods of fat evaluation

GOST 23392–78 Meat. Methods of chemical and microscopic analysis of freshness

GOST 25011–81 Meat and meat products. Methods of protein evaluation

GOST 26669–85 Food and flavor products. Sample preparation for microbiological analysis

GOST 26670–91 Food products. Microorganism cultivation techniques

GOST 26927–86 Raw materials and food products. Mercury detection techniques

GOST 26929–94 Raw materials and food products. Sample preparation. Mineralization for determining concentrations of toxic elements

GOST 26930–86 Raw materials and food products. Arsenic evaluation technique

GOST 26932–86 Raw materials and food products. Lead evaluation technique

GOST 26933–86 Raw materials and food products. Cadmium evaluation technique

GOST 30178–96 Raw materials and food products. Atomic absorption method for detecting toxic elements

GOST 30538–97 Food products. Guidelines for detecting toxic elements by atomic emission technique

GOST 31479–2012 Meat and meat products. Method of histological identification of the composition

GOST 31628–2012 Food products and food stock. Inversion voltammetric method for determining mass fraction of arsenic

GOST 31659–2012 (ISO 6579:2002) Food products. Method of detection of Salmonella spp.

GOST 31671–2012 (EN 13805:2002) Food products. Detection of trace elements. Sample preparation by high-pressure mineralization technique

GOST 31747–2012 (ISO 4831:2006, ISO 4832:2006) Food products. Methods of detection and count of coliform bacteria

GOST 31796–2012 Meat and meat products. Rapid histological technique for determining structural composition components

GOST 31797–2012 Meat. Beef cutting into cuts. Specification

GOST 31903–2012 Food products. Rapid test for antibiotics

GOST 31904–2012 Food and flavor products. Sampling methods for microbiological analysis

GOST 31982–2012 Food products, food stock. Technique for measuring concentration of beta-adrenergic agonists using gas chromatography/mass spectrometry detector

GOST 32008–2012 (ISO 937:1978) Meat and meat products. Nitrogen concentration measurement (arbitration method)

GOST 32031–2012 Food products. Techniques for detection of Listeria monocytogenes bacteria

GOST 32161–2013 Food products. Technique for measuring cesium Cs-137 level

GOST 32163–2013 Food products. Technique for measuring strontium Sr-90 level

GOST 32164–2013 Food products. Sampling technique for determining strontium Sr-90 and cesium Cs-137

Note: While using this standard, it is expedient to check the status of the reference standards in the public information system – at the official web-site of the Federal Agency for Technical Regulation and Metrology in the Internet, or by the annually published reference book “National standards” that was published as of January 1 of the current year, and by the monthly issues of the data index for the current year.

If a reference standard to which an undated reference is made was replaced, it is recommended to use

the effective version of the standard considering all changes made in the version. If a reference standard to which a dated reference is made was replaced, it is recommended to use the version of the standard with the above specified year of its approval (adoption). If after approval of this standard, a change was made in the reference standard to which a dated reference was made, involving the referenced provision, it is recommended to use the provision without the change, in the part not involving the reference.

3 Terms and Definitions

This standard uses the terms pursuant to GOST R 52427 and the following terms with related definitions:

3.1 **highly productive young cattle:** Bull-calves and heifers of specialized meat breeds aged from 8 months to two years, steers aged from 8 to 30 months fattened since weaning mostly by pasture and/or bulk feed; in the finishing period, not less than 100 days before slaughter, fattened with balanced high-calorie feed diets providing at least 70 % of the nutrient value by grain concentrates.

3.2 **high-quality beef:** Beef with the specified level of marbling, thickness of subcutaneous fat, meat and fat color, and eye muscle area, obtained from highly productive young cattle, stored in chilled condition for at least 5 days since slaughter, being sold as cuts.

Note: freezing of high-quality beef is not allowed.

3.3 **meat marbling:** An identification sign of meat characterized by presence of small fatty inclusions, thin layers of fat between the muscle fibers resembling a marble pattern and well visible in a cross cut (eye muscle) of the longest muscle of the back (m. Longissimus dorsi).

Note: to be determined in chilled meat visually by the marbling scale.

3.4 **eye muscle:** the view of the longest muscle of the back (m. Longissimus dorsi) in a cross cut between the 12th and 13th ribs.

3.5 **high-quality beef category:** Characteristic of beef depending on the weight of the carcasses, shape and development of the muscle.

3.6 **high-quality beef class:** Characteristic of beef depending on the marbling; color of muscular tissue; color and thickness of subcutaneous fat; and eye muscle area.

4 Specification

4.1 Characteristics

4.1.1 Beef must conform to the requirements [1], of this standard and be produced with respect to rules [2] and [3] based on the process instruction¹.

¹ "Process Instruction for the Production of High-Quality Beef" approved by the Director the State Science Institution the All-Russia Research Institute of the Meat Industry named after V.M.Gorbatov of the Russian Academy of Agricultural Sciences. This information is given as recommendation for convenience of users of this Standard.

4.1.2 During the process of cattle acceptance by the quantity and quality of received meat (carcasses), the assessment of beef quality should be made by the requirements established in 4.1.3 – 4.1.7.

4.1.3 Depending on weight of carcasses, plumpness of shapes and development of muscles, beef is divided into categories according to the requirements specified in Table 1.

Table 1

Category	Requirements (lower limits)
----------	-----------------------------

B	Carcasses with a weight of at least 315 kg, full-meat with well-rounded, convex and perfectly developed muscle. When examined sideways – wide. The coxofemoral part of the carcass is very wide and even, the overhanging of hip muscle at the knee joint is well pronounced, the back and loin are wide and thick almost to the withers, the spinous processes of vertebra are not visible; shoulders and chest are well-rounded and well filled with muscle, there is no pinching behind the shoulders, the shoulder bone is not visible through a thick layer of muscle
K	Carcasses with a weight of at least 280 kg, full-meat with well-rounded, convex and perfectly developed muscle. When examined sideways – wide. The coxofemoral part of the carcass is very wide and even, the overhanging of hip muscle at the knee joint is well pronounced, the back and loin are wide and thick almost to the withers, the spinous processes of vertebra are not visible; the shoulders and chest are well-rounded and well filled with muscle, there is no pinching behind the shoulders, the shoulder bone is not visible through a thick layer of muscle
G	Carcasses with a weight of at least 240 kg, full-meat with well-developed muscle. When examined sideways – moderately wide and filled with muscles. The coxofemoral part is of moderate width, even, the hip muscle at the knee joint is noticeable, but not overhanging, the back and loin are moderately wide but narrow towards the withers, the spinous processes of vertebra are not visible; the shoulders and chest are rounded and filled with muscle, there is no visible pinching behind the shoulders, the shoulder bone is closed by muscle

4.1.4 Depending on meat marbling (see Fig. 1), color of muscle tissue (see Fig. 2), color of subcutaneous fat (see Fig. 3), thickness of subcutaneous fat and eye muscle area, beef is divided into classes according to the requirements specified in Table 2.

Table 2

Class	Marbling	Thickness of subcutaneous fat, cm	Eye muscle area, cm ²	Color of muscle tissue in cross cut	Color of subcutaneous fat
1	Saturated	No more than 2.0	At least 80	From light red to red (within the range A-C)	White or milk-white (K or L)
2	Good	No more than 2.0	At least 75	From light red to red (within the range A-C)	White or milk-white (K or L)

3	Moderate	No more than 2.0	At least 70	Dark red color is acceptable (D)	Light yellow color is acceptable (M)
4	Small	No more than 2.0	At least 70	Dark red color is acceptable (D)	Light yellow color is acceptable (M)



Fig. 1 – Scale of muscle tissue color shades for the assessment of high quality beef¹

A – light red C – red
 B – rich red D – dark red



Fig. 2 – Scale of subcutaneous fat color shades for the assessment of high quality beef²

K – white
 L – milk-white
 M – light yellow

^[1] This figure is provided for information; reference colors should be used for assessing meat color.

^[2] This figure is provided for information; reference colors should be used for assessing fat color.

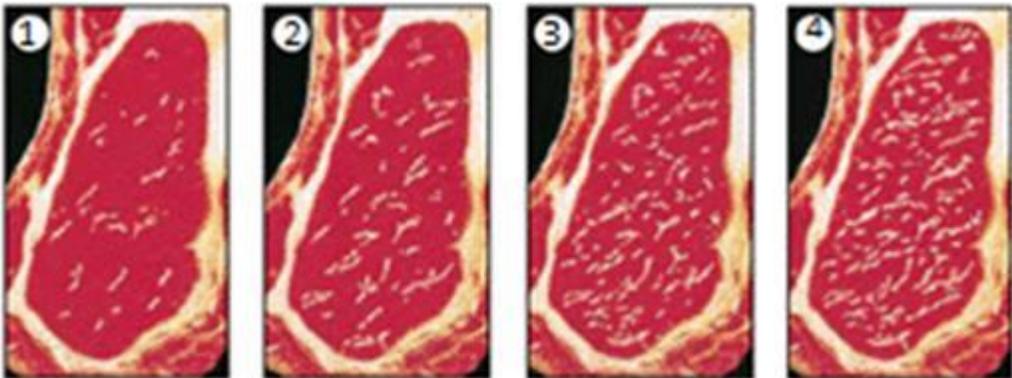


Fig. 3 – Marbling scale for the assessment of high quality beef¹

1 – small 3 – good
 2 – moderate 4 – saturated

¹ This figure is provided for information; reference marbling scale should be used for assessing meat marbling

4.1.5 By organoleptic indicators, beef should comply with the requirements specified in Table 3.

Table 3

Indicator	Characteristic and normal values of the indicator
Muscle in a cut	Slightly wet, does not leave a wet spot on filter paper
Texture	Meat in a cut is firm, elastic; a pit is formed by pressing with a finger but quickly levels off
Smell	Characteristic of fresh meat
Condition of subcutaneous fat	Texture is firm, it crumbles at pressing

4.1.6 The value of beef pH₂₄ measured 24 hours after the slaughter on m. Longissimus dorsi and in beef delivered for sale should range from 5.5 to 5.8 inclusive.

4.1.7 Concentration of volatile fatty acids should not be above 4 mg KOH/25 g of meat.

4.1.8 Beef that does not meet the requirements, at least by one of the indicators 4.1.3 – 4.1.7, is not assigned to high quality beef and is valued under GOST R 54315.

4.1.9 Microbiological indicators of beef should not exceed the norms established by the regulatory acts [1].

4.1.10 Concentration of toxic elements (cadmium, mercury, arsenic and lead), pesticides, radionuclides and dioxins in beef should not exceed the norms established by the regulatory acts. [1].

Antibiotics, hormones, or growth stimulating agents are not allowed in beef.

4.1.11 Beef is produced as longitudinal semi-carcasses or quarters with tenderloin (internal lumboiliac muscle).

4.1.12 Beef carcasses should be divided into semi-carcasses through the backbone, without leaving the whole bodies of the vertebrae and without crushing the vertebrae. The spinal cord should be removed.

4.1.13 Division of beef semi-carcasses into the front and back quarters is between rib 12 and rib 13 and respective chest vertebrae.

4.1.14 Bruise trimming, stripping of subcutaneous fat and muscular tissue on semi-carcasses and quarters is not allowed.

4.1.15 Characteristics of the anatomic boundaries of the cuts should meet the requirements of GOST 31797 taking into account division of the semi-carcasses into front and back quarters, and, accordingly, the change of the top boundary of the back cut and lower boundary of the loin cut – between rib 12 and rib 13 and respective chest vertebrae. Wounds and loss of muscle integrity are not allowed.

4.1.16 Sales of other carcass parts (cuts) shall be performed under GOST 31797.

4.2 Requirements for Raw Materials

4.2.1 For beef production, highly productive young cattle of specialized meat breeds are used – bull-calves and heifers aged from 8 months to two years (presence of only first pair of permanent molars of the tooth arcade) and steers aged from 8 to 30 months (presence of the first pair of permanent molars and beginning of eruption of the second pair of permanent molars of the tooth arcade), grown at the specialized establishments or individual (farmer's) premises free from contagious (zoonoanthonotic) diseases, in compliance with the veterinary and zootechnical requirements [4] и [5], without the application of growth stimulating agents, hormonal products or antibiotics, or feed exposed to ionizing

radiation treatment.

4.2.2 The use of beef grown with the application of gene-engineering methods is not allowed.

4.2.3 Highly productive young cattle are used for beef production which is processed, at the meat industry establishments, where HACCP or similar systems are available and maintained in accordance with [1].

4.2.4 To obtain beef in cuts, the semi-carcasses or quarters are used which meet the requirements of 4.1.3 – 4.1.7, chilled to the temperature in muscle depth not below “minus” 1oC and not above 4oC; cuts shall be separated not earlier than 24 hours after slaughter.

5 Marking

5.1 Marking should be legible and meet the requirements of [6] and GOST R 51074. Marking materials should not affect the beef quality indicators and should be made of the materials admitted for contact with food.

5.2 Veterinary stamping and merchandising labeling of beef in semi-carcasses and quarters should be carried out according to [7] and [8].

5.3 On each of the beef semi-carcasses and quarters, a veterinary stamp of oval form should be put to confirm that veterinary-and-sanitary examination has been carried out and according to its results, the product is safe in the veterinary-sanitary aspect and can be used as food, and also merchandising stamps should be put to designate quality (category and class) and male or female gender.

5.4 Merchandising marking of beef is made only in the presence of a stamp of the state veterinary service. On beef semi-carcasses, two stamp impressions should be made – one on the shoulder part and one on the beef round; on the quarters – one stamp; the cuts are labeled on the packing by gluing a label with an impression of the veterinary stamp.

5.5 Merchandising assessment and marking of the carcasses is carried out on the basis of the determined category of the fresh-slaughtered beef and class – not earlier than 24 hours after slaughter. Beef in carcasses and quarters is marked by a stamp with letter designation corresponding to the categories: "B", "K", "G", to the right of the stamp, and figures corresponding to the classes: "1", "2", "3", "4". Sizes of the letters and figures: height – 20 mm, width – 10 mm, thickness – 1.0 to 1.5 mm. The packed beef in cuts is marked according to [6] with additional indication of:

name;

class;

slaughter date;

packing date;

storage conditions;

shelf life (from the date of slaughter).

5.6 Transport marking – according to [6], GOST 14192 with application of the handling instructions: “Perishable goods”, “Temperature limitation”.

Markings should be made on every transport packing unit by using a stamp, stencil or label gluing according to GOST R 51074 and [6] with the following additional data:

name;

class;

slaughter date;

packing date;

storage conditions;

shelf life (from the date of slaughter).

Example of marking: “High quality chilled beef. Back boneless cut, Class “3,” GOST R.....”.

5.7 For imported beef the name can be specified additionally in the language of the producing country.

5.8 Labeling of beef to be shipped to the Far North regions and locations equated to them: under GOST 15846.

6 Packing

6.1 Beef in cuts is packed into polymer bags under the vacuum conditions with or without further thermal shrinkage. Packed beef is placed into transportation packages: boxes according to GOST 9142 made of corrugated cardboard under GOST R 52901, with polymer returnable bags under GOST R 51289.

6.2 Packing materials and fastening items shall meet the requirements [9], ensure safe keeping and marketable condition of cuts during transportation and storage throughout their shelf life.

6.3 Package shall be clean, dry and free from foreign smells.

6.4 Net weight of the cuts in boxes shall be no more than 25 kg.

6.5 Cuts of the same name, class and date of production shall be packed in one unit of the shipping packages.

6.6 Packing of beef to be shipped to the Far North regions and locations equated to them: under GOST 15846.

7 Rules of Acceptance

7.1 Beef acceptance is performed in batches. A batch is a certain quantity of food product of the same name, class, category, packed in the same way and manufactured by one producer according to this standard during one shift, and accompanied by the shipment documentation ensuring traceability of the food products.

7.2 In addition, beef should be accompanied by a veterinary document containing statements that explain the process of growing high-yield cattle without animal growth stimulators, antibiotics, hormonal products, GMOs, feed exposed to ionizing radiation, or pesticides.

7.3 Beef acceptance is performed taking into account the indicators and requirements established by this Standard. The process of acceptance includes visual inspection and assessment of each of the semi-carcasses or quarters based on indicators 4.1.3 – 4.1.4 and package integrity of all cuts.

7.4 To assess beef quality by indicators 4.1.5-4.1.7 and 4.1.9 – 4.1.10, sample units are taken from different portions of the batch depending on its size and pursuant to the numbers specified in Table 5.

Table 5

Batch size, (number of units), pcs.	Number of sampled units, pcs.
No more than 100	At least 3
From 101 to 500 incl.	At least 7
From 501 to 1000 incl.	At least 10
Over 1000	15

7.5 The procedure and periodicity of control of nutritional value, microbiological indicators, concentrations of toxic elements (mercury, lead, arsenic, cadmium), antibiotics, hormones, growth stimulating agents, pesticides and radionuclides is established by the manufacturer of products in its industrial inspection program.

7.6 Monitoring of dioxin concentrations in beef is conducted in cases when the environmental situation is deteriorated due to accidents, man-made and natural disasters inducing the formation of dioxins and their entry into the environment and in cases when there are reasonable causes to admit their potential presence in the food stock.

7.7 In cases of disagreements related to the beef composition or the requirements of oversight entities, histological identification of the product shall be carried out under GOST 31479, GOST 31796.

7.8 When unsatisfactory test results are obtained for at least one of the indicators, re-testing shall be performed with a doubled sample taken from the same batch. Results of re-testing shall apply to the whole batch.

8 Methods of control

8.1 The assignment of beef in semi-carcasses and quarters to a particular category and class – in accordance with 4.1.3 – 4.1.4.

The assignment of beef in cuts to a particular class – in accordance with 4.1.4.

8.2 Procedure of sample taking and preparation for tests – under GOST R 51447, GOST ISO 7218, GOST 31671, GOST 31904, GOST 7269, GOST 26669, GOST 26670, GOST R 51448, GOST 26929, GOST 32154, [10].

8.3 Beef freshness assessment – under GOST 7269, GOST 19496, GOST 23392.

8.4 Evaluation of physico-chemical indicators:

protein weight fraction – under GOST 25011, GOST 32008;

fat weight fraction – under GOST 23042;

8.5 Evaluation of microbiological indicators:

QMAFAnM – under GOST 54354, GOST 10444.15;

- coliform bacteria (coliforms) – under GOST R 50454, GOST R 54354, GOST 21237, GOST 31747;

Salmonella spp. bacteria – under GOST R 50455, GOST R 54354, GOST 21237, GOST 31659, [11].

L.monocytogenes spp. bacteria – under GOST R 54354, GOST 21237, GOST 32031 [12].

8.6 Measurement of concentrations of toxic elements – according to [13].

mercury – under GOST 26927 [14];

arsenic– under GOST 26930, GOST R 51766, GOST 30538, GOST 31628;

lead – under GOST R 51301, GOST 26932 GOST 30178, GOST 30538, [15];

cadmium – under GOST R 51301, GOST 26933, GOST 30178, GOST 30538, [15];

8.7 Detection of pesticides – under [16] – [18].

8.8 Detection of antibiotics – under GOST R ISO 13493, GOST 31903, [19] – [21].

8.9 Detection of radionuclides – under GOST R 54016, GOST 32161, GOST 32163.

8.10 Detection of dioxins – under [22].

8.11 Detection of hormones – under GOST R 50667.

8.12 Detection of growth stimulators – under GOST R 53594, GOST 31982.

8.13 Detection of volatile fatty acids – under GOST 23392.

8.14 The weight of carcasses is measured in the condition of slaughter-warm meat by weighing them on overhead track scales for static weighing with Precision Class III scales with a capacity of 500 kg and 1000 kg and a discreteness of (d) 0.1 and 0.2 kg (respectively) with a detection threshold of 1.4 kg.

8.15 Meat and fat color and meat marbling grade are assessed in chilled beef semi-carcasses and quarters, in the eye muscle area and cuts.

When meat fat color and meat marbling are assessed, the illumination should be provided by diffused daytime light without exposure to direct sunlight. The illumination should not distort the color of the product under assessment. Workplace illumination must be even and not below 500 lux.

If on the reference scale the beef marbling is ranked in between two characteristics, the smaller of the two should be taken into account.

8.16 Measurement of pH₂₄ in the chilled beef – under GOST R 51478.

8.17 Thickness of subcutaneous fat (in its thinnest portion) (Fig. 4) shall be measured in the chilled beef – with a measuring rod under GOST 427 with the permissible accuracy ± 1 mm, perpendicularly to the external surface of the eye muscle area.

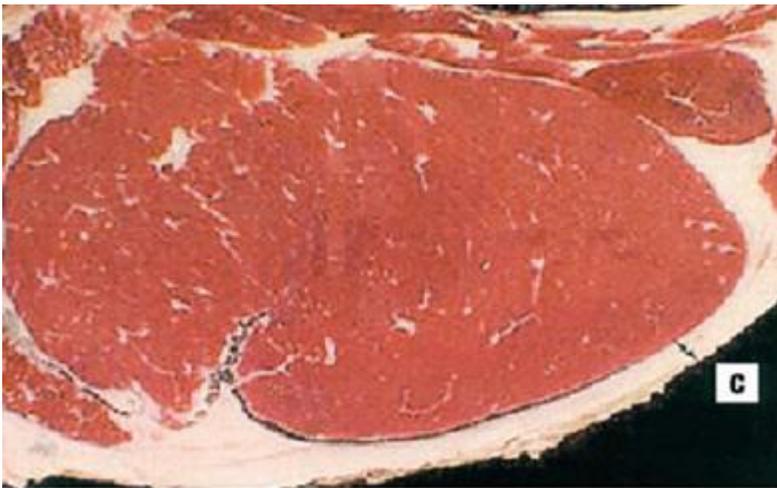


Figure 4 – Measurement of subcutaneous fat thickness (c) in the assessment of high quality beef

8.18 Measurement of eye muscle area (see Fig. 5) in the chilled condition of beef – by a measuring rod under GOST 427 with the permissible accuracy ± 2 mm of length (a) and width (b). The calculation is based on the following formula:

$$S = a \cdot b \cdot 0.8$$

where S - eye muscle area, cm²;

a – eye muscle length, cm;

b – eye muscle width, cm;

0.8 – coefficient.

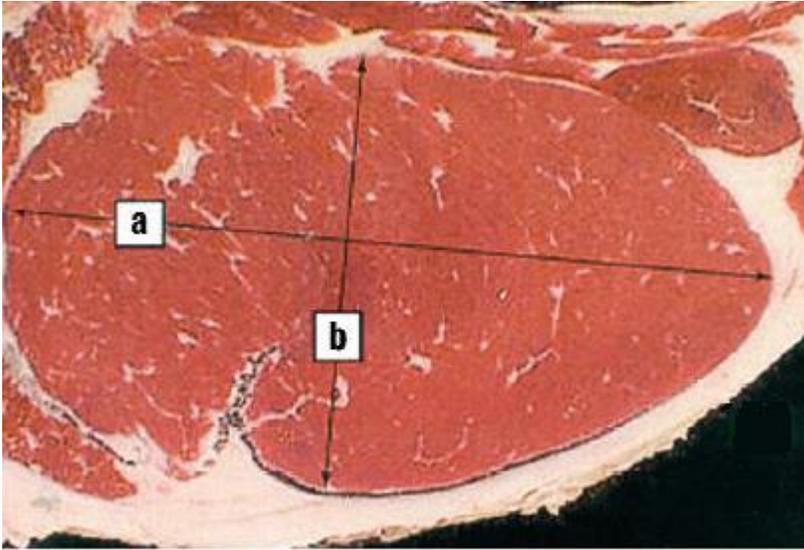


Figure 5 – Measurement of the eye muscle area in the process of high quality beef assessment

8.19 Beef temperature is measured in the muscle tissue layer at a depth of at least 1 cm, using a digital thermometer graduated every 0.1°C with a measurement range from “minus” 30°C to 120°C, or other instruments designed for measuring temperature in food products that measure temperature within the preset range and are included in the State Register of Measuring Tools.

8.20 The identification of composition is performed according to GOST 31479, GOST 31796.

9 Transportation and Storage

9.1 Beef is transported by many types of refrigerated transport in compliance with the rules for transportation of perishable goods effective for this type of transport.

9.2 The recommended shelf life for chilled beef in cuts packed under vacuum conditions at the storage temperature from “minus” 1°C to “plus” 4°C with a relative humidity of 85 % is no more than 25 days from the date of slaughter, which includes at least 5 days of aging at the establishment.

9.3 Shelf life and storage conditions shall be established by the manufacturer.

9.4 The transportation and storage of beef shipped to the Far North regions and locations equated to them – under GOST 15846.

Annex A (for reference) Nutritional Value of Beef

A.1 Beef nutritional value in 100 g of the product is given in Table A.1.

Table A.1

Name	Fat, g not above	Protein, g not below	Energy value, kcal, not above
Back cut	9.8	20.7	261
Loin cut	10.1	20.0	272
Lumboiliac muscle (tenderloin)	9.7	22.7	269

Top hip cut	11.2	18.9	267
Shoulder cut	10.2	20.6	265

¹ Nutritional value is established by the manufacturer.

References

- [1] TP TC Technical Regulation of the Customs Union “On the safety of food products”
021/2011
- [2] Rules of the veterinary inspection of slaughter animals and the veterinary-and-sanitary evaluation of meat and meat products. Approved by the General Veterinary Department of the USSR Ministry of Agriculture on 27.12.1983 upon agreement with the General Sanitary and Epidemiological Department of the USSR Ministry of Health (with amendments and additions of 17.06.1988)
- [3] SP 3238–85 Sanitary rules for meat industry establishments. Approved by the USSR Ministry of Meat and Dairy Industry and the USSR Deputy State Chief Sanitary Officer in 1985 upon agreement with the General Veterinary Department of the USSR Ministry of Agriculture on 27.03.85
- [4] Veterinary-and-sanitary rules for the specialized premises (farms and integrated facilities) for cattle feeding and heifer replacement growing. Approved by the General Veterinary Department of the USSR Ministry of Agriculture on August 30, 1983.
- [5] RF Law: “On the Veterinary Area” of May 14, 1993, #34979-1
- [6] CU TR Technical Regulation of the Customs Union “Labeling of the Food Products”
022/2011
- [7] Instruction on the veterinary stamping of meat approved by the Ministry of Agriculture of Russia, 28.04.94
- [8] Instruction on the merchandising marking of meat. Approved by the Deputy Director of the Department of Food, Processing Industry and Quality of Products, the RF Ministry of Agriculture dated 15.09.2011
- [9] CU TR Technical Regulation of the Customs Union “On the Safety of Packing”
005/2011
- [10] Guidelines Determination of concentrations of toxic elements in food products and food

- 4.1.985–2000 stock. Autoclave sample preparation technique.
- [11] Guidelines Detection and identification of Salmonella и Listeria monocytogenes spp. techniques based on DNA-RNA hybridization analysis
- 4.2.1955–2005
- [12] Guidelines Organization of control and methods of detection of Listeria monocytogenes spp. in food products
- 4.2.1122–2002
- [13] Guidelines Guidelines on atomic absorption methods for the detection of toxic elements in food products
- 01-19/47-11-92
- [14] Guidelines Guidelines on mercury detection in food products
- 5178–90
- [15] Guidelines Technique for measuring the weight fraction of lead and cadmium in food products and food stock using electrothermic atomic absorption spectrometry
- 4.1.986–2000
- [16] Guidelines Detection of organochlorine pesticides in meat, products and animal fats by thin-layer chromatography
- 1222–75
- [17] Guidelines Guidelines on detecting organochlorine pesticides in water, food products, feedstuff and tobacco products by thin-layer chromatography
- 2142–80
- [18] Detection of trace quantities of pesticides in food products, feedstuff and the environment. Methods of detection of trace quantities of pesticides in food products, feedstuff and the environment. Guidebook edited by A. M. Klisenko, M., 1992
- [19] Guidelines Guidelines on detecting antibiotic residues in livestock products
- 3049–84
- [20] Guidelines Detection of laevomycetin (chloramphenicol, chloromycetin in animal-origin products by high-performance liquid chromatography (HPLC) and ELISA
- 4.1.1912–2004
- [21] Recommended Recommended practices for the detection, identification and measurement of laevomycetin residues in animal-origin products
- Practices
- 4.18/1890–91
- [22] Guidelines of Guidelines on the identification and isomer-specific determination of polychlorinated dibenzo-para-dioxins and dibenzofuranes in meat, poultry, fish, by-products and products made of them, as well as other fat-containing products and feedstuff by chromatography/mass-spectrometry
- the RF HM dated
- 01.06.99.

UDK 637.514:006.034

OKS 67.120.10

N11

OKP 92 1110

Key words: high quality beef, category, class, meat marbling, muscle eye area, cuts, toxic elements, antibiotics, pesticides, radionuclides, labeling, rules of acceptance, methods of control, transportation, storage, and shelf life
