

## **Food quality scheme**

### **‘Production of Grass-fed beef’**

#### **Rules**

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## 1. Characteristics of grass-fed beef

Grass-fed beef is healthy: it contains conjugated linoleic acid, vitamin E and beta-Carotene and has an optimal ratio of omega-6 to omega-3 fatty acids. At the same time, the value of all these indicators is, according to human nutrition, at a better level than in grain-fed beef.<sup>1</sup>

In addition, the grass-fed cattle have not received GMO soya, rapeseed or maize, unlike the cattle raised in fattening farms. Farming grass-fed beef cattle is ecologically sustainable as it does not have the carbon footprint of beef production in factory farms. Beef cattle graze throughout the grazing season and are only fed silage and hay during the winter period, i.e. they are not grain-fattened. 50 % of the pasture land used for grazing is permanent, semi-natural or natural permanent grassland, i.e. it is not ploughed or consistently cultivated.

The grazing of feeder cattle ensures better compliance with animal welfare requirements and allows for species-specific behaviour.

## 2. Assessing the climate impact of farms and raising awareness among farmers and consumers

The objective is to carry out an in-depth climate impact analysis in all farms participating in the quality scheme over a five-year period (2024–2028) using an internationally recognised tool. The resulting report is a guide for farms for more climate-friendly and profitable production.

The neutral or negative carbon emissions of farms under the quality scheme have been mapped in various pilot projects carried out by the Estonian Fund for Nature in 2018–2023 with the project *Eat 4 Change Meat Guide* and the *BovINE* project for the dissemination of sustainable practices, introducing various climate impact assessment tools.

The farms under the food quality scheme use a pasture-based production method and a minimal share of purchased feed, resulting in a very small environmental footprint. To support results-based management of farms, an international assessment tool needs to be used, producing for the farmer a report that lists recommendations for further action. Higher profits and a healthier living environment go hand in hand and are interconnected. The richer the biodiversity of the soil, the higher the quality of the feed and the healthier the livestock, which

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<sup>1</sup> A review of fatty acid profiles and antioxidant content in grass-fed and grain-fed beef. Cynthia A Daley\*, Amber Abbott1, Patrick S Doyle, Glenn A Nader and Stephanie Larson Nutrition Journal 2010, 9:10

improves the production capacity and quality of the farm. In addition, the results of the climate impact assessment report are a strong marketing argument that can also be used to raise consumer awareness of the positive environmental impact of grass-fed beef cattle farming. Often, a more climate-friendly approach to grass-fed beef farming only requires a change in practices and habits (feeding, breeding and grazing) and no major investments are needed. However, this requires first mapping and measuring the initial level of all farms under the scheme.

### **3. Requirements of and procedure for participating in the food quality scheme**

All producers of organic grass-fed beef who fulfil the requirements set out in the food quality scheme can participate in this scheme. The quality scheme is also open for processors of grass-fed beef and its by-products. Compliance with the requirements arising from legislation is monitored by the Agriculture and Food Board (AFB).

To participate in the food quality scheme, a relevant application needs to be submitted to MTÜ Liivimaa Lihaveis (Nonprofit Association Liivimaa Lihaveis). The producer undertakes, with their signature, to comply with the requirements laid down in the rules of the food quality scheme. The Board of Directors of the Association verifies the applicant's compliance with the requirements for participating and if the applicant qualifies, lists the applicant among the participants in the food quality scheme.

Conditions for the participation for farms in the food quality scheme:

- A. producers participating in the scheme must not have violated the general requirements of animal and plant health or of animal welfare, food and animal feed safety;
- B. producers must keep a record of animals included in the quality scheme, i.e. the animals must be registered as prescribed by law and requirements;
- C. producers must have obtained organic recognition or have started a transitional period for obtaining organic recognition;
- D. producers observe the compulsory production method set out in the food quality scheme 'Production of Grass-fed Beef';

- E. once a year, producers cover costs incurred in an inspection carried out by an agricultural adviser chosen by the Board of Directors of the Association implementing the food quality scheme;
- F. producers do not prevent the inspection from being carried out, and submit all documents required for carrying out the inspection.
- G. as of 2024, a farm participating in the quality scheme carries out an assessment of the climate impact of its farm using an internationally recognised tool.

Producers participating in the food quality scheme who violate the requirements of the rules of the food quality scheme will be deleted from the list of participants by a decision of the board of directors of the producer group.

#### **4. Final product to be sold**

The products to be sold are grass-fed beef and meat preparations made of it, minced meat, meat products and rendered edible fats.

MTÜ Liivimaa Lihaveis has a cooperation agreement with meat processing enterprises recognised under the Food Act. The co-operating enterprises comply with the requirements arising from § 24 of the Food Act and these requirements are described in detail in the self-check plans of these enterprises.

MTÜ Liivimaa Lihaveis keeps records of the quality and quantity of beef carcasses sold under the quality scheme. The co-operating meat processing plant keeps records of the sale of beef, carcass cutting and stocks. A cooperation agreement has been concluded between the meat processing plant and MTÜ Liivimaa Lihaveis, which ensures that the requirements for the use of the recognised quality scheme label are met. In accordance with the cooperation agreement, a representative of MTÜ Liivimaa Lihaveis has access to the quantity and stock of beef sold.

#### **5. Compulsory production method for produce obtained under the food quality scheme**

Grass-fed beef is produced by the local companies of the producers participating in the food quality scheme. The quality scheme covers all grass-fed cattle breeds grown in Estonia. The cattle covered by the quality scheme are grown on roughage specific to the cattle. It is recommended that at least 50 % of the grazing period, store animals graze on permanent

grassland or on heritage grassland. 50 % grazing is permitted on short-term grassland and/or catch crops. Winter feed, consisting of high-quality silage and hay, may be collected from cultivated grassland. Grain and protein feeds are not fed to cattle unless the supply of basic feed has failed, quality silage or hay cannot be purchased and supplementation is necessary to maintain basic animal welfare. Silage and/or hay fed to young animals to be slaughtered must be of such quality which ensures their weight gain.

Animals can be fed organic grain and protein feeds of domestic origin (linseed or rapeseed cakes). The amount of additional feed given as a special measure must not be more than 30 % of the daily dry matter intake. Soya, maize and other imported feeds (GMO) are prohibited. This means that a farm is not allowed to use animal feed which does not comply with the requirements established for farms that have obtained the Republic of Estonia organic recognition.

Beef cattle included in the quality scheme are granted access to the outdoors throughout the year as well as to clean water and basic shelter protecting them from the elements in both summer and winter. When housed, animals can be let into a walking area. Winter housing must provide the cattle with a dry lying area.

Animals slaughtered under the quality scheme must be well-nourished, healthy and raised in conditions which comply with the requirements established for farms that have obtained the Republic of Estonia organic recognition. It is recommended that bullocks and heifers are slaughtered at an age of 16 to 36 months and bulls up to the age of 24 months. Fat class 1 to 5, conformation class O to E. Suckler cows are slaughtered for preparing grass-fed beef products without subjecting them to age restrictions. Quality is ensured by the weight and health indicators of the animal.

A participant in the quality scheme may castrate bulls to improve meat quality. Castration is done surgically or with a clamp with a licensed veterinarian present. The recommended minimum age for castration is 1–3 months, then castration may be prevented from falling within the same period as the weaning of young animals. The period between weaning and castration must be at least 21 days.

## 6. Main characteristics of the final product which can be used for assessing quality

### A. Animal welfare:

Checked on farm: an agricultural adviser carries out a visual assessment of the condition of suckler cows and makes recommendations for improvement if necessary;

### B. Grazing on permanent grassland or heritage grassland — at least 50 %:

Checked on farm: the owner of the animals presents to the inspecting authority a pasture record on the basis of which the share of permanent and heritage grassland of all the land used is determined. Grazing must be indicated in the pasture record in the respective boxes for activities carried out on pastures. The inspecting authority determines whether a grazing balance of 50 % has been achieved.

The grazing density of the entire herd is taken into account.

#### Recommended grazing density:

The grazing density must ensure that the amount of nitrogen (N) per hectare does not exceed 170 kg as laid down in Annex IV to COMMISSION REGULATION (EC) No. 889/2008

- bovine animals less than 1 year old: 5 animals / ha
- male bovine animals, heifers, bullocks from 1 to 2 years old: 3.3 animals / ha
- suckler cows: 2.5 animals / ha
- male bovine animals, heifers, bullocks over 2 years old: 2 animals / ha

### C. Quality of winter feed:

Checked on farm: the quality of winter feed, including its organoleptic properties, is assessed visually. To assess whether the amount of winter feed is sufficient, the inspecting authority is guided by the same standards as the Organic Farming Department of the Agriculture and Food Board, i.e. the feed calculation is checked. The minimum amount of dry matter for the winter feeding period (210 days) is estimated to be 15 kg of dry matter for 1 suckler cow, 21 kg of dry matter for a breeding bull, 7.5 kg of dry matter for a young animal aged 6 months to 2 years and 2 kg of dry matter for a calf aged 0 to 6 months. The quality of the feed must ensure that the body condition score (BCS) of suckler cows is at least 4. The condition of suckler cows is assessed visually by the inspecting authority on the basis of the following table.



Table 1. Body condition scores (BCS) for suckler cows

	BCS	DESCRIPTION
Very emaciated to thin	1	Clearly defined outline of bones, ribs and spine visible, no fat present on the entire animal. Emaciated muscles, the animal is physically weak and has difficulties walking and standing.
	2	Description of physical condition similar to above but the animal can walk and stand normally.
	3	Similar to BCS 1 and 2 but with muscles present and not as emaciated. Ribs and spine clearly visible under the skin, no fat deposits. In group 3, the fat percentage is 13 % of the total weight of the animal. A medium-size cow in BCS 3 weighs roughly 160 kg less than the same animal in BCS 7
Borderline	4	Bones and 3 to 5 ribs are visible but the spine is not very prominent under the skin. Various muscles in the hindquarters are detectable but without visible fat deposits on them. In BCS 4, the body fat percentage is 18 % of the total weight of the animal. A medium-size cow in BCS 4 weighs approximately 120 kg less than the same animal in BCS 7.
Optimal: medium to very good nutritional condition	5	Slightly more fat than a cow in BCS 4. Only 1 to 2 ribs visible, muscles in hindquarters not detectable. Pins slightly and palpably covered with fat deposits but no fat on brisket. In BCS 5, the fat percentage is 22 % of the total weight. A medium-size cow in BCS 5 weighs approximately 80 kg less than a cow of the same size in BCS 7.
	6	Fat desposits visible on brisket and flanks, ribs no longer visible. Pins and hooks still visible but the body contour is smooth. In BCS 6, the body fat percentage is 26.5 %. An average animal in BCS 6 weighs approximately 40 kg less than the same size cow in BCS 7.
	7	Brisket and flanks visible under a layer of fat, the spine is detectable but the entire body contour is smooth. The location of hooks is still slightly visible. In BCS 7, the body fat percentage is 31 %.
Obese	8	The animal is so fat that pins and hooks are not visible, prominent fat deposits on brisket. Fatty udder and fatty patches around the tailhead. The neck is very thick, the spine is not visible, a fat layer also on the muscles in the hindquarters.
	9	External features similar as above but with physiological difficulties walking and lying. The extent of fat deposits may impair the animal's ability to conceive and give birth.

The recommended nutritional condition for suckler cows is BCS 5 to 7. Animals with BCS of 4 are allowed if the reason for losing weight is calving for the first time in first-year heifers or very advanced age.

#### D. Weight gain:

Checked on farm: in young animals, weight gain is assessed after weaning. Weaning may take place 6 to 12 months after birth. Weight gain are assessed visually, animals



must be lively, moving normally. If young animals have visible deviations from the norm – e.g. sunken eyes, drooping ears, matted and lustreless fur during the grazing season, staggering gait – the quality of the main feed (silage or hay) must be analysed, including its toxin content. Also, a faeces test must be taken to check for internal parasites.

In young animals, a standard weight gain is ensured by silage or hay with a minimum metabolisable energy of 8.4 MJ/kg in dry matter. The dry matter raw protein content must be at least 10.5 %.

If the roughage characteristics are below these levels, the farmer is allowed to give young animals (aged 6 to 12 months) grain and protein feeds of domestic origin but not more than 30 % of their daily dry matter intake.

Grain or protein feeds cannot be given to cattle aged between 16 months and 36 months that are ready for slaughter. If their roughage does not guarantee minimum weight gain, they are not slaughtered under the grass-fed beef quality scheme during the winter period but only in the grazing season.

E. Farming conditions:

Checked on farm: the free movement of animals must be guaranteed in all seasons, i.e. they must not be tethered or kept enclosed in a barn or without an exercise area. Access to clean water at any time of the year. In winter, water must not be covered with ice. The animal owner must ensure that the animals have access to ice-free water at least once a day. In the winter period, a dry lying area must be provided. An opportunity to shelter from the elements in summer and winter; a natural forest stand or similar may serve this purpose.

F. Castration:

Checked on farm against entries in the veterinary log.

G. Farm climate impact analysis and report:

The presence or absence of the analysis is checked.

## **7. Measures to ensure that the compulsory production method is followed**

Each participant in the food quality scheme undertakes to comply with the requirements contained in the rules of the scheme. Compliance with the requirements of the food quality scheme is verified once a calendar year by a qualified agricultural adviser selected by MTÜ

Liivimaa Lihaveis. If the requirements are violated, a precept is issued to the participant in the food quality scheme and a term is established for rectifying the violation. A follow-up inspection is carried out after this. The costs incurred in the regular and follow-up inspection are covered by the participant in the food quality scheme. If the requirements of the rules are repeatedly violated or carrying out of an inspection is obstructed, the violator can be deleted from the list of participants in the food quality scheme by a decision of the Board of Directors of the Association.

## **8. Minimum requirements of and procedure for checking specific characteristics of the final product**

The quality of the produce of participants in the food quality scheme is checked by an agricultural adviser selected by the Board of Directors of the Association who has the required profession corresponding to at least professional level 5 specified in the qualification framework set out in Annex 1 to the Professions Act in the area that covers the end product produced under the food quality scheme. Such checks are carried out at least once a calendar year.

The inspector assesses the production of grass-fed beef on the basis of the following indicators:

- A. grazing on grassland;
- B. castration;
- C. farming conditions – organisation of watering and provision of a dry lying area;
- D. the quality and amount of winter feed – compliance with the minimum maintenance requirements and weight gain standards of beef cattle.
- E. preparing a climate impact analysis and a report on the farm.

The inspector's assessment is based on the requirements and recommendations established in the section 6 'Main characteristics of the final product which can be used for assessing quality'.

## **9. Procedure for labelling the final product**

Beef products produced under the 'Production of Grass-fed Beef' food quality scheme are labelled as provided in Appendix 1.

## **10. Procedure for notifying the Agriculture and Food Board**

MTÜ Liivimaa Lihaveis undertakes to notify the Agriculture and Food Board of the following changes:

- changes to the postal address or contact information of the Association;
- transformation of the Association (merger, division or dissolution);
- changes to information submitted in the application;
- changes to the list of participants in the food quality scheme.

The rules of the food quality scheme are adopted and approved by the general meeting of the producer group.

The rules of the quality scheme were updated on 11 October 2024.

Prepared by: Airi Külvet

## Appendix 1. Designation of the 'Production of Grass-fed Beef' food quality scheme



**RIIKLIKULT TUNNUSTATUD  
ROHUMAAVEISE LIHA  
STATE CERTIFIED  
GRASS-FED BEEF**

RIIKLIKULT TUNNUSTATUD  
ROHUMAAVEISE LIHA

RIIKLIKULT TUNNUSTATUD  
ROHUMAAVEISE LIHA

STATE CERTIFIED GRASS-FED BEEF

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## **Appendix 2. Scheme for the marketing organic grass-fed beef of MTÜ Liivimaa Lihaveis**

MTÜ Liivimaa Lihaveis was established in 2010. The Association has its seat in the Põltsamaa municipality, Jõgeva county, Republic of Estonia. The principal activities of the Association are aimed at developing the market for organic grass-fed beef by diversifying quality beef products, both in terms of expanding the assortment and new specific new products. The aim of the Association is to help the members of the Association and other undertakings raising grass-fed beef cattle expand and develop the already existing business activities, thereby increasing the competitiveness of the undertakings.

### **Description of the measures by MTÜ Liivimaa Lihaveis to ensure the placing on the market of organic grass-fed beef products as required.**

The entire supply chain of beef sold under the food quality scheme has been checked. A cooperating meat processing plan arranges the transportation of live animals to the appropriate slaughterhouse, the transportation service of the carcasses from the slaughterhouse and only receives appropriately labelled carcasses from the slaughterhouse.

Appropriate labelling means:

- the organic recognition number of the slaughterhouse,
- the slaughter batch number of the slaughterhouse,
- animal ID,
- carcass weight,
- fat class,
- conformation class.

A cooperation agreement has been concluded between the co-operating meat processor and the producer group to ensure compliance with and monitoring of the requirements underlying the use of the approved quality scheme labelling.