

Rules of 'Production of Grass-fed Beef' food quality scheme

Characteristics of grass-fed beef

Grass-fed beef is healthy: it contains conjugated linoleic acid (CLA), 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 from the point of view of human nutrition is at a better level than that of grain-fed beef.¹

In addition, unlike factory-farmed beef cattle, their grass-fed counterparts are not given GMO soya, rapeseed or corn. The raising of grass-fed beef cattle is ecologically sustainable, lacking the carbon footprint that production of beef in factory farms has. Beef cattle graze throughout the grazing season and are only fed silage and hay (but not grain) during the winter period. 50% of pastureland used for grazing is permanent, natural or semi-natural grassland, which means that it is not ploughed or consistently cultivated. Grazing of beef cattle ensures that animal welfare requirements are better fulfilled and the cattle are allowed to act in a way characteristic of the species.

Requirements and procedure for participating in 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. To participate in the scheme, a corresponding application must be lodged with MTÜ Liivimaa Lihaveis. The producer undertakes, with their signature, to fulfil the requirements established in the rules of the food quality scheme. The MTÜ's board checks whether the requirements for participating in the scheme are fulfilled by the applicant and, if so, lists them among the participants in the scheme.

Requirements for participating in food quality scheme:

- 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;
- producers must keep a record of animals participating in the scheme, i.e. the animals must be registered as prescribed by law and requirements;
- producers must hold an organic compliance certificate or must have entered into a transitional period to obtain such a certificate;

¹ *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.*

- producers observe the compulsory production method set out in the ‘Production of Grass-fed Beef’ food quality scheme;
- once a year, producers cover costs incurred in an inspection carried out by an independent certification body chosen by the producer group implementing the food quality scheme;
- producers do not prevent the independent certification body from carrying out an inspection and present all documents required for carrying out the inspection.

Producers participating in the food quality scheme who violate its requirements will be removed from the list of participants by a decision of the general meeting.

End product

The product to be sold is organic grass-fed beef. MTÜ Liivimaa Lihaveis and Linnamäe Lihatööstus AS keeps a record of the grass-fed beef sold. A batch of beef means one transported load of beef. After the carcasses are deboned, Linnamäe Lihatööstus AS will give each batch numbers and then it will be packaged, marked and stored.

MTÜ Liivimaa Lihaveis outsources slaughtering and cutting services from companies EE 16, recognised in accordance with the Food Act. These companies fulfil the requirements arising from section 24 of the Food Act. These requirements are described in detail in their self-checking plans. Appendix 3 to this scheme includes a marketing scheme for grass-fed beef from MTÜ Liivimaa Lihaveis.

Compulsory production method for produce obtained under this food quality scheme

Grass-fed beef is produced by local companies of producers participating in the food quality scheme.

The scheme includes grass-fed beef cattle of the all the breeds. Polled animals are preferred, because it is easier to ensure the welfare of the people tending such cattle while gathering, sorting and transporting. Producers of horned cattle can participate in the quality scheme if they can prove that their farms have the potential to start the natural production of polled animals in the future (by using breeding bulls carrying the polled gene).

Beef cattle under the quality scheme are fed roughage that is natural to the species. For at least 50% of the grazing period, beef cattle are grazed on natural, permanent or semi-natural grassland. For up to 50% of the grazing period the animals may be grazed on cultivated or short-term grassland. Animal feed for the winter season, consisting of high-quality silage and hay, may be collected from cultivated grassland. It is prohibited to feed animals with grain and protein feed unless the collection of main feed has failed, it is not possible to buy high-quality silage or hay or providing additional feed is required to maintain the basic welfare of the animals. Silage and/or grass fed to young animals to be sold must be of a quality that ensures their minimum growth. Weight loss and weight standstills are not permitted for beef cattle under the quality scheme.

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

Beef cattle under the quality scheme are granted access to the outdoors all year round and to clean water and basic shelter protecting them from the elements in summer and winter.

In the winter season, the animals are provided with a dry lying area with bedding (straw or hay).

Animals sold under the quality scheme must be well-nourished, healthy and raised in conditions which comply with the requirements established by the Republic of Estonia for farms holding an organic certificate.

The weight of beef carcasses to be sold is in the range of 270-350 kg. Bullocks and heifers are sold at an age of 14-30 months; bulls up to the age of 24 months. Fat class 2-5, conformation class O-E.

Main characteristics of end product for use in assessing quality

— Breed

Checked on farm: The breed of the beef cattle is checked on the farm on the basis of cattle passports.

— Grazing on permanent, natural or semi-natural grassland for at least 50% of the

grazing period

Checked on farm: The owner of the animals presents to the inspecting authority a pasture record book on the basis of which the ratio of permanent, natural or semi-natural grassland to all land used for grazing is determined. Grazing must be indicated in the pasture record book in the respective column for activities carried out on pastureland. The inspecting authority determines whether a ratio of 50% has been achieved. The grazing density of the entire herd is taken into account.

Table 1. Recommended grazing density

Age		Number of animals per ha			
		Cultivated grassland		Semi-natural, natural or permanent grassland	
		Early summer	Late summer	Early summer	Late summer
Heifer	< 1 y	8	4	4	2
Heifer	> 1 y	4	2	2	1
Bull	1 y	6	3	3	1.5
Bullock	< 1 y	8	4	4	2
Bullock	> 1 y	4	2	2	1
Suckling cow with calf		3	1.5	1.5	0.75

— **Quality of winter feed**

Checked on farm: The quality of the 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 Agricultural Board i.e. the feed calculation sheet is checked. The minimum amount of dry feed during the winter season (210 days) is estimated to be 15 kg/KA 1 for suckling cows, 21 kg/KA for breeding bulls, 7.5 kg/KA for young animals aged 6 months-2 years and 2 kg/KA for calves aged 0-6 months. Feed quality must ensure that the body condition score (BCS) of suckling cows is at least 4. The condition of suckling cows is assessed visually on the basis of the following table.

Table 2. Body condition scores (BCS) for suckling cows

	BCS	DESCRIPTION
Emaciated to very thin	1	Clearly defined outline of bones, ribs and spine visible, no fat present. Emaciated, the animal is physically weak, difficulties walking and standing.
	2	Description of physical condition as previously, 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 present. In BCS 3, the body fat percentage is 13%. An average cow with a BCS of 3 weighs <i>ca</i> 160 kg less than the same animal with a BCS of 7.
Borderline	4	Bones and 3-5 ribs are visible, but the spine is not very prominent. Various muscles in the hind part are detectable, but without fat. In BCS 4 the body fat percentage is 18%. An average cow with a BCS of 4 weighs <i>ca</i> 120 kg less than the same animal with a BCS of 7.
Optimum: average to very good nutritional condition	5	Slightly more fat than in BCS 4. Only 1-2 ribs visible, muscles on hind part not detectable. Pins slightly and palpably covered with fat, but no fat on brisket. In BCS 5 the body fat percentage of the animal is 22%. An average cow with a BCS of 5 weighs <i>ca</i> 80 kg less than the same cow with a BCS of 7.
	6	Fat visible on brisket and flanks, ribs not visible. Pins and hooks still visible, but the body contour is smooth. In BCS 6 the body fat percentage is 26.5%. An average cow with a BCS of 6 weighs <i>ca</i> 40 kg less than the same cow with a BCS of 7.
	7	Brisket and flanks visible under a fat layer, the spine is detectable, but the body contour is smooth. The location of hooks is slightly detectable. 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 deposit on brisket. Fatty udder and fatty patches around tail head. Neck heavily covered with fat, spine not visible, muscles in hind part covered with fat.
	9	Description of physical condition as previously, but with physiological difficulties walking and lying. The extent of fat deposits may potentially impair the animal's ability to conceive and give birth.

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

--Weight gain

Checked on farm: In young animals, weight gain is assessed after weaning. Weaning may take place 6-12 months after the birth. Weight gain is assessed visually. Animals must be active and move normally. If young animals have visible deviations from the norm – e.g. sunken eyes, drooping ears, staggering gait or matted and lustreless fur during the grazing season – the main feed must be analysed (silage or hay) as to its quality, including its toxin content. Also, a faeces test must be taken for internal parasites.

In young animals, standard weight gain is ensured by silage or hay with a minimum ME content 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 feed young animals (aged 6-12 months) with grain and protein feeds of domestic origin, but only up to 30% of their daily dry matter intake.

It is prohibited to feed beef cattle ready to be sold and aged 13-30 months with grain or protein feed. If their roughage does not guarantee minimum weight gain, these animals are not sold under the ‘Grass-fed Beef’ quality scheme during the winter period, but only in the grazing season.

— Farming conditions

Checked on farm: Free movement of animals must be guaranteed in all seasons i.e. they must not be tethered or kept enclosed in a shed or without an exercise area.

Access to clean water in all seasons. In winter, water must not be covered with ice.

In the winter period, a lying area with dry bedding must be provided.

Animals must be provided with a place to shelter from the elements in summer and winter; a forest stand or similar may serve this purpose.

— Carcass range established in scheme

Weighing data provided by the slaughterhouse is checked: If carcass weight is less than 230 kg, beef from this animal is not sold as prime cuts, but may be used as an ingredient in such meat products as minced meat, sausages and hams. Using meat from carcasses exceeding the recommended weight of 300 kg is not restricted in any way: this limit is an indicative figure for owners and is regulated with a lower price.

Measures to ensure that compulsory production method is followed

All participants in the food quality scheme undertake to follow its requirements. Fulfilling the requirements of the scheme is checked once per calendar year by a person acting on behalf of an independent certification body selected by MTÜ Liivimaa Lihaveis. If the requirements are violated, a precept is issued to the participant in the scheme and a fixed term is established for rectifying the violation. Next, a follow-up inspection is carried out. The costs incurred in the regular and follow-up inspection are covered by the participant in the scheme. If requirements are repeatedly violated or the carrying out of an inspection is obstructed, the violator may be removed from the list of participants in the food quality scheme by a decision of a general meeting of the MTÜ.

Minimum requirements and procedure for checking specific characteristics of end product

The quality of the produce of participants in the food quality scheme is checked by a person acting on behalf of an independent certification body selected by MTÜ Liivimaa Lihaveis. Such inspections are carried out at least once per calendar year.

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

- grazing on pastureland;
- the compliance of breeding, breeds and bulls with the scheme;
- farming conditions: organisation of watering and provision of a lying area; and
- the quality and amount of feed in the winter season: compliance with the minimum welfare and weight gain standards of beef cattle.

The inspector's assessment is based on the requirements and recommendations established in the section **“Main indicators characterising the quality of the final product and used to assess its quality”**.

Procedure for marking end product

Beef products produced under the ‘Production of Grass-fed Beef’ food quality scheme are marked with the quality scheme marking given in Appendix 1.

Requirements of persons acting on behalf of certification body and procedure for their selection

A person acting on behalf of the certification body is selected by participants in the food quality scheme of the MTÜ by a decision of the general meeting. The requirements established for certification bodies are given in the minutes of the general meeting of MTÜ Liivimaa Lihaveis of 20.12.2013. These requirements are given in Appendix 2 to these rules. The certification body selected must present the MTÜ with a document confirming that it is competent to check whether the requirements of the food quality scheme are fulfilled. If participants in the food quality scheme are not satisfied with the inspection measures taken by the certification body or the latter does not perform the inspections as frequently as established in the rules, the MTÜ has the right to select a new person to act on behalf of a competent certification body by the decision of the general meeting of participants in the food quality scheme.

All participants in the food quality scheme are inspected by a person acting on behalf of a certification body once per calendar year. During the inspection visit it is checked whether the requirements established in the food quality scheme are being fulfilled. To check this, if there are doubts that winter roughage does not comply with requirements, the roughage is tested. The certification body selects a competent laboratory to carry out such tests. In regard to the inspection visit a legal document in duplicate is compiled, of which one signed copy is presented to the MTÜ. Due to the long production process, participants in the food quality scheme may be checked all year round.

Procedure for notifying Food and Veterinary Board

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

- changes to the MTÜ's postal address or contact information;
- changes to the MTÜ's structure (merging, division or termination);
- changes to data given in the application; and
- changes to the list of participants in the food quality scheme.

The rules of the food quality scheme are approved and confirmed by the general meeting of the production group.

Appendix 1. Marking of 'Production of Grass-fed Beef' food quality scheme



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