

EKSPERTYZA

Healthy and Fair Perspective on Beef.

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In current times, special attention is paid to external appearance, a well-presented physique, and a healthy diet. This follows the current trends set in the press, television, or mass media. It is well established that to achieve a shapely figure, one should practice sports and change eating habits. This is a correct strategy from a health and dietary point of view. However, in terms of diet, the change concerns not only eating habits but also specific nutritional products. Who among us does not know the memes about eating rice with chicken?

The mentioned chicken, as a basic diet product, is indeed an excellent source of protein, a vital nutritional component, but how many times can one eat chicken? Here, I would like to draw attention to another protein-rich product: beef.

I can now imagine great surprise – beef? Isn't that very unhealthy meat? Well, ladies and gentlemen, it is not entirely so.

First of all, what is beef?

It is red meat obtained from cattle. It is characterized by a light color. Its color depends on the heme pigment - myoglobin. The older the animal, the more intense the aroma of the beef. As for the taste, it spans a whole range from slightly sweet to sour and bitter at the same time.

In culinary art, the naming depends on the origin of the meat cut. Distinguished are: neck, shoulder, rump, brisket, ribeye, tenderloin, flank, and thigh.

Nutritional values:

100 grams of beef is only 81 kcal, so, contrary to popular belief, it is not a fatty meat. In the same 100 grams of meat, there is also 12.03 grams of protein, 2.43 grams of carbohydrates, 2.52 grams of fats, including 0.95 grams of monounsaturated fats, 1.18 grams of saturated fats, 0.16 grams of polyunsaturated fats, and 51 mg of cholesterol, 0.98 mg of iron, 41 mg of sodium, 187 mg of potassium, 83 mg of phosphorus, 5 mg of calcium, 11 mg of magnesium, 2.22 mg of zinc. The same piece of 100 grams of meat also contains vitamins. The most important is its richness in vitamin B group (B2, B3, B5, B6, B12). Unlike other meats, beef has the highest content of vitamin B12. The importance of vitamin B12 for the human body is special, as it participates in the metabolism of fats, proteins, and carbohydrates, and affects the functioning of the nervous system, participates in blood production, and reduces lipid levels. Vitamin B12 is found only in meat products. Beef is also rich in vitamins A, C, D, and E.

Is beef finally healthy or not?

It depends on who it is for. Beef is recommended for people of all ages. It is especially important in the diet of athletes, pregnant women and nursing mothers, growing children, and

the elderly. Beef should be included in the diet of people at risk of anemia due to insufficient iron intake and those at risk of various nutritional deficiencies (e.g., eating disorders).

Why for athletes and physically active people?

Because the demand for well-absorbable protein in the body increases. During training, the process of building muscle mass begins, and it cannot build itself out of thin air. Muscles are made of long, contractile fibers, whose work utilizes large stores of stored glycogen and glucose. Therefore, to facilitate muscle growth, it is necessary to provide them with high-quality building material, i.e., proteins, remembering also the appropriate supply of carbohydrates. I think physically active people will agree with me that an athlete's diet can sometimes become monotonous (this is a dietary mistake, but who doesn't make mistakes?). Therefore, diversifying the diet with an occasional portion of, for example, a beef steak will be a pleasant addition with a taste value.

Why for pregnant women and breastfeeding mothers?

Because of the effort the woman's body goes through. The mother's body's focus on creating the right conditions for the growing fetus is undeniable. The role of all dietary components of a pregnant woman is important, but the most important is the supply of vitamins. Earlier, I mentioned the wealth of vitamins contained in 100 grams of beef, so, like in the case of athletes, occasional diversification of the diet with a tender beef tenderloin may be beneficial to health. During this period, it is important to remember not to consume raw (tartare) or undercooked meat. This is associated with the risk of infection with dangerous bacteria or parasites, such as the protozoan *Toxoplasma gondii*.

For breastfeeding mothers, beef is also a valuable source of nutrients. During this period, the demand for all nutrients and the caloric content of meals increases, as milk production itself is an extremely demanding task for the mother's body. At this special moment in a woman's life, her diet is exceptionally important, as it affects the nutritional value of the milk she produces.

Why for younger and older people?

Because there is a high risk of nutritional deficiencies both during growth and after the growth period. These deficiencies are associated with increased demand for building materials in growing children, and in older people, they are associated with various diseases. Offering a dish with beef can help provide essential nutrients and nutritionally support the body during growth or convalescence.

For diabetics?

Yes. Due to its glycemic index. Beef has a low, almost zero glycemic index. With 5% fat content, as well as 1% carbohydrate content in the meat, nothing more, nothing less – quite a good product for diabetics.

For whom is beef not recommended?

Due to the proportions of fat content - the good PUFA fats are definitely too little. Beef provides less than 10% of these particularly important fatty acids for the health of the cardiovascular system. However, there are definitely too many of these saturated fatty acids, SFA. Therefore, people struggling with heart diseases are not advised to consume beef in significant quantities.

Final verdict.

From a dietary point of view, consuming beef is beneficial to health. According to the National Centre for Nutrition Education, it is recommended to consume red meat up to 500 grams weekly. It is recommended that consuming red meat in this weight value in a weekly diet will not be associated with adverse health effects.

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Technically About Beef

Few people understand the culinary significance of meat aging in gastronomy and everyday home cooking before it enters the commercial market. To maintain the flavor, tenderness, juiciness, and deliciousness of young beef, the aging process lasts from 7 to 10 days. For traditionally available beef, this process should be extended to even 3 weeks!

The tenderness of beef is especially appreciated in meals for special occasions, such as a family holiday dinner or summer grilling with friends. Therefore, producers pay special attention to this aspect. Beef tenderness is achieved, for example, by coating beef portions with vegetables. For this purpose, carrots, parsley, leeks, celery, and onions mixed with oil are used. This procedure also improves the maturation of the meat and allows achieving the desired tenderness.

One way to achieve excellent tenderness and flavor of beef portions is by marinating it. My way of marinating is as follows.

Firstly, marinating beef should start even 12 hours before the actual cooking. A good marinade consists of oil mixed with favorite spices (I use juniper, rosemary, coriander, bay leaves, and allspice), mixed with vinegar. The tastiest is when, instead of vinegar, the marinade is sprinkled with wine or beer.

I write about such an apparently significant issue concerning beef, but...

Do you know that disappointment at the dinner table, where a delicious-looking portion of beef turns out to be a dry piece of meat without finesse? Probably something went wrong... To preserve the juiciness of the meat, one must understand what is really important in the culinary art, during the processing of beef, before it deliciously settles on our plate.

The whole secret is hidden inside our product, more precisely in the temperature of its interior during initial frying. Properly prepared beef requires a piece of meat, from the outside devoid of a high degree of marbling. It is connective tissue that hardens during frying due to meat juice and temperature. That's why we choose beef with a low content of connective tissue. We fry it using the dry method on a pan or grill it, ensuring that the temperature inside the product does not exceed 65° C. This is how, for example, English roasted beef is prepared.

If we happen to buy a piece of meat with more connective tissue - there is a method for that too. Such a piece of meat should be treated long and wet. The idea is for the meat to go through three magic phases. The first phase - of initial tenderness and juiciness (already mentioned frying method). The second phase of heat treatment is achieved when the temperature inside the product rises to 75° C, making the meat dry and hard. The third phase allows the beef to achieve secondary tenderness and juiciness after reaching 100° C.

I wrote that you have to treat the beef wetly. Of course, because I planned a stew for dinner. Regaining juiciness and tenderness occurs when our meat is doused with water. This will start the process of decomposition and hydration of the connective tissue. Thanks to this, we achieve the effect of secondary growth in tenderness and juiciness.

As to how important temperature is in preparing beef, both food technology experts and culinary wizards agree. Commonly, the degree of doneness of beef is graded in such categories:

- rare, blue (bloody, very bloody) - the meat temperature should not exceed 47 - 50° C, and the meat inside should have a light red color, be bloody and almost raw, while on the outside lightly browned
- medium rare (medium bloody) - the meat temperature should not exceed 50 - 52° C, and the meat should still be light, red, still juicy and tender
- medium (medium done) - the meat temperature should not exceed 60° C, and the meat inside should have a compact, pink consistency
- medium well (just right done) - the meat temperature should not exceed 64 - 74° C, and the meat inside should change from pink to brown color, while still maintaining its juiciness
- well done (well done) - the meat temperature should not exceed 70 - 85° C, and the meat inside should have a gray color turning into brown.

Simple, right?

Trivia.

Research conducted in 2019 on 1134 respondents indicates that the most frequently chosen beef steak is medium rare (41% of declarations), medium steak was chosen by 23% of respondents.

And now a surprise. Only 16% of respondents used a thermometer to determine the degree of doneness. The cited source indicates that the respondents did not have knowledge about the types and degrees of beef doneness. You now possess this knowledge.

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Since We Are Talking About Culinary Arts.

I assume each of you has your favorite culinary blogs from which you draw ideas for dinner, inspiration for your own culinary expression, or obediently follow the step-by-step recipe dictated by an expert to eat something edible. I don't want to overwhelm you with links to specific superstar chefs/authors, but I would like to introduce you to someone less contemporary. A figure from the past, the mother of Polish culinary art. A lady born in Warsaw in 1829, unhappily forced into cooking by her mother.... Her cookbook "365 Dinners for 5 Zlotys" amazed Bolesław Prus, Henryk Sienkiewicz. Historical accounts say that recipes from "The Lady of Dinners" are light and do not drown in fat. Lucyna Ćwierczakiewiczowa may be a historical figure, but every true Polish chef knows her recipes.

Fortunately, I have in my collection a reprint of selected culinary inspirations by Lucyna Ćwierczakiewiczowa, placed in "The Perfect Housewife's Handbook," which quotes beef dishes authored by her. For the uncertain, a pound weighs just under 0.5 kg.

True Hungarian Goulash

Ingredients:

400 g of beef, 400 g of mutton, 400 g of pork for goulash, 200 g of lard (diet version 3 tablespoons of rapeseed oil), 6 onions, salt, ground paprika, 750 ml of beef broth (as the author states – can be from a bouillon cube), 6 potatoes.

Recipe instructions:

Three pounds of various soft pieces of beef, mutton, and pork, cut into hazelnut-sized cubes. Half a pound of lard (replace with oil) cut into cubes, put in a pot, and fry on low heat under a lid until white. When you see it frying, add 6 onions cut into thin slices, mix with lard (oil), let it stew for five minutes, then add the chopped meat, salt it, and sprinkle generously with paprika. Stew it under the lid for an entire hour on a low flame without stirring at all, but continuously adding a spoonful of cold broth. After an hour, peel 6 potatoes, cut into cubes, throw into the meat, and then stir the whole thing. Stew until the potatoes are soft. A superb goulash for those who like spicy seasonings.

Remember how I mentioned that beef likes it long and wet? ;)

Italian Braised Beef

Ingredients:

3 kg of beef for roasting, 100 g of very chilled lard (1 ½ tablespoon of oil), multicolored peppercorns or cloves, salt.

Recipe instructions:

Take a thick piece of beef, weighing from 4 to 6 pounds, lard it with strips of sliced lard, and in each hole made with a larding needle, insert a peppercorn or a clove. Then rub the meat with salt, put it in a pot tightly covered and stew it for 3 to 4 hours. Such prepared beef is served hot at the table, garnished with roasted chestnuts, or used cold as a snack with bread and butter.

The above recipe requires modification if we decide to forego the use of lard (recommended).

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Lengyel, Magyar – két jó barát, együtt harcol, s issza borát

Since the Lady of Dinners brought up Hungarian goulash... You might know the saying, "Polish, Hungarian - two brothers, good for the sword and for the glass". To this day, this saying is alive among Hungarians. Indeed! Some older Hungarians can even quote this proverb in broken Polish. I know because I've heard it with my own ears.

Hungarians have many beef dishes, including goulash, Hungarian schnitzel, and spit-roasted meat. Goulash (marhapörkölt) is one of the most characteristic dishes of Hungarian cuisine, where beef is stewed in tomato or paprika sauce with onions, paprika, tomatoes, and spices. Hungarian schnitzel (húsos tekercs) is a fried beef cutlet stuffed with onions, paprika, and sausage, served with potatoes or rice and a side of cabbage or pickled cucumber salad.

From my holiday travels, I'm also familiar with spit-roasted meat. "Sült marha" is made from beef cut into pieces and prepared on a grill or in the oven. The meat is marinated in olive oil, balsamic vinegar, garlic, salt, and pepper, and then grilled or baked until it is well browned and crispy on the outside, while remaining soft and juicy on the inside. It is served with potatoes, vegetables, or salad.

Hungary is also famous for its beef sausages and cold cuts - "marhahús kolbász". These meat products are very popular among Hungarians and are exported to many countries worldwide.

The French approach beef differently. Below are the most popular French dishes based on beef:

- Boeuf bourguignon - one of the most famous French dishes, beef stewed in red wine with vegetables and herbs, served with mashed potatoes.
- Filet mignon - grilled or pan-fried beef tenderloin fillet, served with Bearnaise sauce, vegetables, or mashed potatoes.
- Pot-au-feu - thick broth with boiled beef, parsley root, celery, carrot, and leek, served with bread.
- Tartare - finely chopped raw beef mixed with egg, onion, capers, mustard, and spices, served on bread or with fries.
- Steak frites - grilled piece of ribeye or sirloin, served with fries and maître d'hôtel sauce.
- Bœuf à la mode - beef stewed in tomato sauce with vegetables, herbs, and white wine, served with potatoes or pasta.

Like the Hungarians, beef is also used in France to make various types of sausages and cold cuts, such as saucisson sec and jambon cru. French cuisine is known for using every part of the animal, and beef is one of the most important ingredients in traditional dishes.

In our Polish cuisine, beef is most often prepared in the following ways:

- Rosół - a traditional dish made from meat broth, where beef is cooked with vegetables and spices. Rosół is served with pasta or groats.
- Goulash - stewed beef with onions, paprika, mushrooms, and spices. Goulash is served with potatoes or groats.
- Minced cutlet - a dish made from ground beef with onions and spices, shaped into a cutlet and fried in a pan. Minced cutlets are served with potatoes and salad.
- Beef bits - thin slices of beef fried with onions and spices. Beef bits are served with potatoes and salad.
- Zrazy - stewed pieces of beef in a red sauce with vegetables and spices. Zrazy is served with potatoes and cabbage.

Poles, like Hungarians and French, use beef to prepare sausages and cold cuts, such as kabanosy, krakowska, white sausage, and ham.

And why did I compare three different European cuisines? To say that beef is not just steak or a burger patty. I deliberately do not suggest which recipe is the tastiest. Experiment and judge for yourself.

Myths, everywhere myths.

There are many myths about beef. There is so much revealed truth on the Internet that it's overwhelming! After some research, here are a few of them:

- Beef is fatty and unhealthy - Yes, it's true that some cuts of beef are higher in fat, but there are also low-fat cuts, such as tenderloin (only 113 kcal per 100 g). Remember that beef provides many nutrients, including protein, iron, and vitamin B12 (and I assure you, there is a group of people struggling with deficiencies of this vitamin, which I will explain further).
- Beef causes heart disease - This is one of the most common myths about beef. In reality, studies have shown that moderate consumption of beef (up to 500g weekly) does not increase the risk of heart disease, provided it is consumed as part of a healthy and balanced diet.
- Beef is hard to digest - This is also a slander. Beef is well tolerated by most people, although it may be difficult to digest for some people with intestinal diseases, such as Crohn's disease.
- Beef contains hormones and antibiotics - Many believe that beef is raised with hormones and antibiotics, but in reality, most countries prohibit their use in cattle breeding for meat. In case of cattle diseases, antibiotics can be used, but according to the rules regarding the waiting period before selling the meat. I will certainly write more about how the law protects us and what systems operate daily across the European Union.
- Beef is expensive - Beef may be more expensive than some other types of meat, but that doesn't mean it's always expensive. Beef prices can vary depending on the type of cut, meat quality, and place of purchase. Besides, sometimes it's better to spend a little more money on a nutritious meal than to save money by lowering the quality of your diet.
- There is also a myth that eating beef is harmful to the environment because beef production contributes to greenhouse gas emissions. In reality, the ecological impact mainly depends on the method of breeding, not on eating beef itself.
- Another popular myth is that beef is the only source of protein. In reality, protein can be found in many other sources, such as fish, eggs, legumes, and nuts. Such ideas can also be found on the Internet... Nuts, legumes, eggs, and fish should be the main components of the diet, but due to evolutionary connotations, nutritional preferences, and proper dietary balance, meat consumption should also be included.

And once again:

- Beef is unhealthy. No, no, no. Beef is rich in protein, iron, zinc, and B vitamins, which are essential for health. However, as with any other type of

meat, it is important to consume it in moderation and include it in a balanced diet.

We want to be eco-friendly and consume meat in reasonable amounts...

Yes, it's a real dilemma to consider. Fortunately, in the European Union, there are institutions that, along with consumers, are concerned about the problem of mass meat production and its impact on the environment.

What types of farming are we currently dealing with? Well, there are three: intensive, traditional, and organic. Each has its pros and cons.

Intensive farming is characterized by high efficiency and rapid growth of animals, as well as specialized technology and procedures that ensure the effectiveness of breeding.

Pros and cons of intensive farming include:

Pros:

- High efficiency and growth rate of animals, enabling the supply of meat and dairy products to the market.
- Higher efficiency and profitability in the environment for applying breeding methods, allowing for the production of more products at lower costs.
- Controlled breeding conditions, such as air conditioning, lighting, diet, and health prevention, help maintain animal health and minimize disease risk.
- Improved quality of products, using specialized technology in terms of care, management, and genetic selection.

Cons:

- Increased risk of diseases and animals, due to proximity and living conditions in the animal breeding system.
- Impact of breeding on the natural environment, including greenhouse gas emissions and other by-products.
- Increased risk of bacterial or viral infections, which can be transmitted to humans if animals are raised in unsanitary conditions.
- Lack of a natural environment for animals, which can affect their health and mental well-being.

A single reading is enough to realize that among the above arguments, there is a lack of normative guidelines for ethical and ecological principles, as well as legal protection for animal health and food quality.

Traditional farming is most often conducted by small farmers. Animals are raised in conditions close to natural, significantly affecting their health and well-being. Traditional farming is similar to ecologically sustainable farming, as animals live in a natural environment and are not bred in a climate of fulfillment of requirements calculated for intensive farming in terms of feed and energy.

Cons of traditional farming:

- Traditional farming is less efficient in terms of productivity and animal growth rate, meaning meat and milk production is lower.
- Traditional farming requires specific agricultural land areas, which may lead to deforestation and land degradation.
- There is a risk of diseases among animals, which can contribute to the reduction of quality and quantity of products.
- More manual labor is required, meaning production costs can be higher.

Pros:

- High quality of meat and dairy products, thanks to the natural way of feeding animals and minimizing the use of artificial additives in the diet.

- Minimal impact on the natural environment, due to the use of natural breeding methods and animal feed.
- A natural living environment for animals, which helps maintain their health.
- The use of local animal breeds helps protect cultural and genetic heritage.

Finally, I mention the most desirable type of farming - organic farming. This is a type of farming that contributes to minimizing the use of chemicals and antibiotics and is based on ecological and ethical principles of joint activity. Pros and cons of organic farming:

Pros:

- Higher quality of products, thanks to the avoidance of using additional devices for animal breeding.
- Minimal impact on the environment, due to the use of natural breeding methods and minimizing the use of chemicals.
- Minimal impact on human and animal health, due to the absence of hormones and antibiotics.
- The use of local animal breeds helps protect cultural and genetic heritage.

Cons:

- Higher production costs and higher costs associated with minimizing the use of chemicals.
- An increase in diseases and in the young, due to natural breeding conditions among animals and the lack of antibiotics.
- Lower availability of organic products in the market, due to the lack of competition among producers.

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For enthusiasts:

The Common Agricultural Policy of the EU

A bit dull and painful, but to be able to sleep peacefully, one has to get through this too. EU law... Only for enthusiasts. You've been warned.

I presented earlier myths related to meat consumption, which echoed health and ethical aspects. I promised to delve into this.

Under the Accession Treaty signed in Athens, Poland joined the European Union on May 1, 2004. Since then, transitional and final EU legal regulations apply to us. One such is respecting the guidelines of the Common Agricultural Policy.

Support under the Common Agricultural Policy includes:

- Income support through direct payments that ensure the stability of these incomes and reward farmers for environmentally friendly activities and delivering public goods, which they usually don't get paid for, e.g., for caring for rural areas.
- Market support measures, i.e., actions to remedy difficult market situations, such as a sudden drop in demand due to health threats or a drop in prices due to a temporary surplus of products.
- Measures for rural development along with national and regional programs aimed at meeting the specific needs and challenges faced by rural areas.
- Supporting farmers and improving agricultural productivity by ensuring stable food supplies at affordable prices.
- Ensuring an adequate standard of living for EU farmers.
- Supporting sustainable management of natural resources and combating climate change.
- Protecting rural areas and landscapes across the EU.

- Cultivating rural economies by promoting employment in agriculture, agri-food industries, and related sectors.

Ok, but what does this mean for us – consumers, farmers, producers, and frankly speaking – cattle? According to current guidelines:

The new CAP aims to achieve 9 specific objectives:

1. Supporting decent incomes for farms and their resilience across the Union to enhance food security.
2. Increasing market orientation and competitiveness, including greater focus on research, technology, and digitalization.
3. Improving farmers' position in the value chain.
4. Contributing to climate change mitigation and adaptation, as well as sustainable energy production.
5. Supporting sustainable development and efficient natural resource management, such as water, soil, and air.
6. Contributing to biodiversity protection, strengthening ecosystem services, and protecting habitats and landscapes.
7. Attracting young farmers and facilitating business development in rural areas.
8. Promoting employment, growth, social inclusion, and local development in rural areas, including bioeconomy and sustainable forestry.
9. Improving the EU agriculture's response to societal demands on food and health, including safe, nutritious, and sustainable food, as well as animal welfare.

Ok, and what are the expected benefits? How does this relate to organic farming and general environmental care?

In organic production, the aim is to achieve the following general objectives:

- a) Contributing to the protection of the environment and climate.
- b) Maintaining long-term soil fertility.
- c) Contributing to a high level of biodiversity.
- d) Significantly contributing to maintaining a non-toxic environment.
- e) Contributing to high animal welfare standards and – in particular – to meeting the behavioral needs characteristic of each animal species.
- f) Encouraging the use of short supply chains and local production in different EU areas.
- g) Encouraging the preservation of rare or local breeds at risk of extinction.
- h) Contributing to the development of plant genetic material adapted to the specific needs and goals of organic farming.
- i) Contributing to a high level of biodiversity, particularly through the use of diverse plant genetic material, such as organic heterogeneous material and organic varieties suitable for organic production.
- j) Supporting the development of organic plant breeding to contribute to favorable economic prospects for the organic sector.

And for the inquisitive, I'll add that according to the EU's Green Deal program, efforts are currently underway to increase the share of organic farms in the EU to 25% by 2030.

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Food Safety – Producer Obligations

Have you ever wondered how we can buy safe food? Food producers, including meat, are obliged to comply with a series of restrictions regulated by practices such as Good Manufacturing Practice (GMP), Good Hygienic Practice (GHP), and HACCP. Food production facilities must undergo epidemiological and sanitary inspections, and company employees must meet health conditions that allow them to work with food and have the appropriate examinations. In addition, producers are obliged to operate according to current legal requirements regulated by relevant laws. I don't want to bore you with the law, but as consumers, we should know how it is ensured that the food we buy is safe. Below, I have extracted from the regulations the key duties of food and feed producers.

- Safety: Businesses should not market harmful food or feed.
- Responsibility: Businesses are responsible for the safety of the food and feed they produce, transport, store, or sell.
- Traceability: Businesses should be able to immediately determine the data of each supplier or recipient.
- Transparency: Businesses should promptly notify the relevant authorities if they have reasons to believe that their food or feed is not safe.
- Exceptional situations: Businesses should immediately withdraw from the market any food or feed if they have reasons to believe it is not safe.
- Prevention: Businesses should identify and regularly assess critical points in their procedures and ensure controls at these points.
- Cooperation: Businesses should cooperate with the relevant authorities in taking actions to reduce risks.

In the European Union, an additional system operates to monitor the transport of food and animals. The Rapid Alert System for Food and Feed (RASFF) was established under Regulation (EC) No 178/2002 of the European Parliament and of the Council of January 28,

2002, establishing the general principles and requirements of food law, and procedures in matters of food safety. The purpose of this institution is to increase responsibility and strengthen cooperation among member states to effectively limit the marketing of dangerous food and feed, thereby contributing to better consumer health protection. This system is an important element of public health protection policy, and its principle of operation is based on collecting and quickly transmitting information about food products and animal feed that may pose a threat to consumer health.

In what cases is the alarm system triggered? When there is suspicion or detection of:

- The presence of a substance or ingredient prohibited in the EU.
- The presence of a substance or ingredient not approved for use or unregistered in the EU.
- The detection of exceeding permissible levels of undesirable or harmful substances for humans or animals.
- The detection of foreign bodies (e.g., pieces of glass).
- Incorrect labeling of the product or lack of labeling on the product.
- Rejection of products by border services for sanitary and veterinary reasons (e.g., due to improper microbiological quality of transported goods).

In Poland, the Chief Sanitary Inspectorate is responsible for the operation of the FASFF system. So, listen to media announcements, information announced in stores and supermarkets, and read the labels of the products you buy carefully.

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Vegetarianism

For some, healthy eating is associated with a vegetarian diet. Therefore, it is good to know what vegetarianism is and what its sources are. I'll write a bit philosophically, but it can't be helped. You managed to get through EU law, so you'll handle ethics as well.

Vegetarianism as a diet was practiced in ancient times. The conscious choice of this type of elimination diet had its roots in philosophical and moral assumptions. For the ancient Greeks, abstaining from consuming animal foods was a way to strengthen high spiritual values, which was very desirable in the times of emerging democracy in Athens, founding of gymnasiums, lyceums, and philosophical disputes in the agora. Influenced by unrestricted access to philosophical thought and exciting polemical tirades, the ancients recognized beauty (of the soul and body) as one of the most important virtues that every respectable man of Athens should represent. Adopting a vegetarian diet was a concern for the inner and outer beauty of a person, thus also caring for one's own health. Echoes of this thought are also heard in the Hippocratic Oath: "[...] I will recommend a healthy lifestyle and diet to the best of my ability and judgment, keeping in mind the benefit of the suffering, protecting them from harm and injustice." The author of the oath was not Hippocrates - the most famous ancient physician, but his students, who studied at the Pythagorean school, which had quite ascetic rules. The observance of a vegetarian diet by Pythagoras and his students was supposed to make the body submissive to the soul in order to devote oneself to the contemplation of the number - the principle of everything. The disciples of the school, studying mathematical and astronomical rules in philosophical-religious assumptions (sources of the Orphic cult), in addition to a sharp mind, ascetic posture, life in silence, adopted the commandment to abstain from animal foods. For the ancients, this was a completely new model of life, but according to Pythagoras, such a doctrine guaranteed the possibility of intellectual and moral development. We owe geometry and contributions to music theory (the theory of string properties and octaves) to the Pythagorean school, as well as the creation of the concept of the cosmos, in which the world is subordinate to and harmonious according to the number.

It is intriguing that a vegetarian diet was followed by other sages and scientists, including Socrates, Plato, Leonardo da Vinci, Isaac Newton, Voltaire, Goethe, Gandhi, etc. For all mentioned, vegetarianism was an expression of deeper reflections on ethical values. At the center of the assumptions was the moral and humanitarian stance towards all living beings, giving them a reason for existence and respect.

Vegetarianism is also a lifestyle with a health-promoting character, taking into account economic and ecological motives on a global scale. Originally, it was meant to protect the plight of animals (as sentient beings), later it became an expression of resistance to man's predation towards animals. Since the Middle Ages, man has been breeding animals for slaughter on a larger, commercial scale and developed this field of breeding and trade until the 19th century. The 19th-century industrial revolution also encompassed slaughterhouses and meat processing plants. Technological progress enabled mass meat production. The 20th century proved that production, trade, and circulation of goods make people wealthy. It also proved that societies indulged in material goods and satiated with food are sick. The second half of the 20th century is the time when various diseases began to be recorded in the population of people. Today, they form a collection of civilization diseases, which include hypertension, heart diseases, diabetes, overweight, and obesity. The lack of physical activity and a diet rich in animal foods are considered to be the culprit of this state of affairs.

The National Center for Nutrition Education has updated the pyramid of healthy human nutrition, which shows that rational nutrition should be based on consuming as many vegetables and fruits as possible, proportionally fewer cereal products, and even less dairy compared to the cereal group. Close to the top of the pyramid are animal products. The top of the structure is closed by oils and fats of plant origin.

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Vegetarianism: Pros and Cons

Remember how I characterized beef in terms of its nutritional and health significance? In the description, I particularly emphasized the content of vitamin B12 in beef. Vitamin B12, technically known as cobalamin, is only found in meat, so rational meat consumption, in accordance with the guidelines in the healthy eating pyramid, can immediately protect against deficiencies in the body. However, its absence can have adverse health consequences. Vegetarians are aware of this. After years of practicing a diet that excludes meat consumption, they may struggle with vitamin deficiencies...

So, what are the commonly recognized advantages and disadvantages of a vegetarian diet?

Pros:

- Healthier lifestyle: Many studies have proven that a vegetarian diet can help reduce heart disease, diabetes, cancer, and other chronic diseases.
- Respect for animals: Vegetarianism can help reduce the suffering of farm animals, which stems from the origin and production of animal products.
- Environmental benefits: The production of meat contributes to the emission of greenhouse gases, which is harmful to the environment. A vegetarian diet

can reduce the emission of greenhouse gases and contribute to less pollution of water and land.

- Diversity: A vegetarian diet can inspire trying new culinary ideas and tricks, which can lead to the discovery of new flavors and world cuisines.

Cons:

- Lack of nutrients: Giving up animal products can lead to deficiencies in certain nutrients, including protein, iron, zinc, vitamin B12, and others. Vegetarians need to pay more attention to their diet to ensure it is properly balanced.
- High costs: Some plant-based products can be more expensive than meat or animal products, which can be problematic for people with lower incomes.
- Dietary restrictions: Not everywhere serves alternative dishes to meat (e.g., restaurants). It can also be a cultural challenge – refusing to eat traditional dishes, such as during holidays.

You decide and choose what is more beneficial for you.

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B12 – Supplementation, If Needed

When I presented the pros and cons of a vegetarian diet, I mentioned the risk of vitamin B12 deficiency. To give you a complete picture, let me explain further.

Vitamin B12 is absorbed in our body in the ileum with the help of a specific protein produced in the stomach. Only in this duo can it be absorbed as a valuable dietary component. Problems with obtaining it for the body concern people who suffer from any diseases of the gastric mucosa and other sections of the digestive system, struggle with pernicious anemia, or take drugs adversely affecting the absorption process of vitamin B12.

Generally, in developed countries, deficiencies of vitamin B12 are not observed (excluding people with diseases), as it accumulates in the body, specifically in the liver and kidneys. Moreover, it is possible to recover it in the lumen of the digestive tract (even up to 75%). Therefore, in people who have been practicing conscious veganism since a specific point in life, not from birth, a vitamin B12 deficiency may only manifest itself after 20 or even 30

years. Vegetarians can feel safer, as their diet does not exclude animal-derived food products so restrictively. I mean dairy and eggs.

A well-balanced vegetarian diet can help maintain proper levels of vitamin B12 in the body, even considering its daily excretion, which is about 0.1%.

Fortunately, cobalamin is resistant to acids, oxygen, and light, so the products that are rich in it do not completely lose it during culinary processing. It is estimated that during culinary technological processes, vitamin B12 losses range from 7 to 30%.

Vitamin B12 is found in cottage cheeses, rennet cheeses, milk, and eggs. It is estimated that the consumption of two eggs covers 46% of its daily requirement. Not everyone knows, but yeast (*Saccharomyces cerevisiae*) is rich in cobalamin! Yes - the yeast used for baking sweet buns, challah, and brewing beer! From which vegan cheeses are made. Surprised?

If there was indeed an urgent need for vitamin B12 supplementation - dear vegans, dear vegetarians - perhaps it would be best to reach for pharmacy-grade brewer's yeast tablets. And after the crisis ☺

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The Natural History of Meat Eating

Have you ever wondered how the art of cooking originated? Or what early humans ate before they mastered basic cooking techniques?

When I was a little girl, I imagined that the first humans invented cooking by accident. That at the first spark of fire deliberately ignited by man, a fire broke out that spread throughout the area... And then the primitive man found warm, crunchy food with a pleasant yet strange smell in the ashes. It sounds quite brutal, but well – that was a child's fantasy ☺

It was a bit different. But let's start from the beginning.

Our ancestors, who we are separated from by tens of millions of years, were vegans. Studies of their teeth show that the diet of Purgatorius (the first representative of the order of

primates) was fruit-based. Interestingly, subsequent primitives living in the Paleolithic era favored a "harder" diet. They fed on grass, leaves, and tree bark... thanks to molars that, through evolution, became larger and more effective. Since I've mentioned evolution, I should add that early humans couldn't really eat other things. Their digestive systems were not adapted to digest meat. Additionally, the first herbivores had exceptionally large ceca.

The change in dietary preferences of the time was due to climate change. Scientists have proven that when the climate cooled and the areas inhabited by early humans dried up, nature revealed a plate of new possibilities to them. They began to feast on nuts and seeds. As we know, when it's cold and hungry, a meal with higher energy value tastes best. These practices contributed, again through evolution, to the shrinking of the cecum and the development of the small intestine, where fats are digested.

It may now seem that since humans have evolutionarily adapted to feasting around the grill and a highway of new culinary possibilities has opened, nothing stands in the way of enjoying Mother Nature's table. But no. This highway is still impassable. And why? Because the necessary reflection was lacking.

The first modest thought about expanding the menu came from observing the surroundings. I imagine the curious faces of primitives when, on the savannah pastures, they stumbled upon leftovers of prey uneaten by, say, a saber-toothed tiger ☺ As I mentioned, when it's cold and hungry, and something leaves its meal leftovers just like that - why not taste it?

Unfortunately, it must be stated bluntly. Our ancestors, 2 million years ago, were scavengers...

Consuming raw meat was associated with providing the body with high-quality protein, vitamins, and minerals. As we know - a well and healthily fed person can move mountains, so why not start a great revolution instead?

Researchers agree that from that moment on, the progress of early humans was staggering. They developed hunting techniques, invented tools, began to create hierarchical structures among themselves - who hunts, who defends, who gets which pieces. And when the first conscious fire was finally lit - the machinery of progress and revolution has not stopped to this day! ☺

I started with the emergence of culinary art. With the development of hunting wild game, attempts to process meat began. It was quickly discovered that some parts of the meat retained their tastiness longer, while others became inedible after a short time. They started to test the storage of acquired food. The climate was conducive to this. The cold ensured that the meat was properly cold, maybe even frozen, and storing it in a cave, where fires were lit for warmth, gave it an interesting smoky flavor (smoking). Similarly, cooking was observed. Too strong a fire - the meat was black and less tasty than that cooked over a smaller fire in water.

Culinary techniques usually developed out of necessity. Presumably, roasting on a grate was invented by hunters who, hungry and tired after hunting, roasted game over a fire on their

spears. And our contemporary "stuffed cabbage" may have originated from the fantasy of wrapping a piece of meat in leaves ☺

I mentioned that with the change in diet, social processes began to shape among groups of early humans. With the development of hunting, which was done by the strongest, gathering began, in which women proved best. Probably thanks to their observation of nature, techniques for cultivating plants developed. It is assumed that cooking with the addition of vegetables and herbs is their doing.

When hunting, gathering, and even fishing were mastered, it was time to domesticate animals. Initially, attempts were made to domesticate reindeer (in northern areas) or gazelles (in the south) out of laziness. Man got tired of long expeditions for food. He decided to lure food closer to his settlement. The experiment failed. Reindeer and gazelles couldn't be bribed. But the wolf (*Canis Lupus*) was willing to be bribed. The tandem of hunter and wolf improved hunting, which utilized the wolf's alertness, sense of smell, and speed.

The start of meat consumption contributed to the overall development of humans. Technological gains (tools), organizational structures (action strategies and social relations) are undoubtedly tremendous achievements. However, the expansion of the diet of early humans to include meat meant that humans primarily became healthier, stronger, and simply wiser.

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Food and Culture: A Topic as Broad as the Nile Delta

“Every cuisine where something is boiled, it must be boiled in a certain way, like this or like that.”

This sentence expresses a profound thought by Claude Lévi-Strauss (a prominent French anthropologist) on the significance of food in culture. And indeed, it is vast.

It is believed that food is not just for nutrition or merely a sustenance. The context of eating meals, rituals associated with it, and adherence to specific meal models are embedded in the rhythm of traditions and play a role in defining social identity, and in themselves reflect different cultures.

I told you how meat consumption unleashed a whole machinery of change in human natural history. Eating roasted meat improved human health and strength, leading to radical changes.

Hunting and preparing meals once and for all delineated the boundary between the world of humans and the world of animals. Lighting a fire, warming up, and eating meals unified people. It made another visible boundary emerge. It resonated with "ours - theirs", "we - they", "from our tribe - savage", and later "family - other". Thus, besides its warm-and-food-giving function, the hearth became a symbolic space. To this day, eating and sharing food, also in the context of hospitality, is a fundamental custom of all groups of people worldwide.

As the hearth once was, the table later became the symbolic center of the community. And although the integrative function of eating meals is fading today due to lifestyle, work burden, family migrations – communal eating of specific meals is evident during traditional holidays. In the anthropology of culture, this is the locus sacrum – linking the consumption of specific foods with religious experiences. For example, in the Catholic religion, there is a vivid prohibition against eating meat on Christmas Eve, but no such prohibition exists during Easter, where from morning people feast on white sausage and boiled ham. Catholic abstention from eating certain products, like the 40-day Lent, is a consent to spiritually experience the approaching Passion of the Lord, after which comes the overcoming of death and a festive feast. In Jewish culture, food is approached in terms of ritual purity and defilement (kosher meals), while Muslims reject pork from their diet.

Another meaning of food in a cultural context is its power to demonstrate social status. Food as a demonstration of social status is evident, for example, in the history of meal consumption in Poland in the 16th century. According to historical sources, particularly the accounts of a foreigner – the Swiss Heinrich Wolf, the style, richness, and extravagance of meals and especially feasts organized by the Polish nobility astonished him. The impression must have been so great that the foreigner's observations were documented and titled "About Polish Feasts". From Wolf's accounts, it is known that feasts occurred several times a year and only among highly titled participants. They were accompanied by all sorts of arrangements, starting from the rooms, through table and dish decorations, to the manner and order of serving the dishes. The table, or rather tables (usually three), were covered with layers of tablecloths, and they sagged under the served victuals.

Historians who analyze food consumption in ancient times emphasize that in the 16th century, noble families consumed food with a value of 4000-5000 thousand kcal per person (!). Apparently, magnates and kings ate even more. To imagine how high a title's status was emphasized through food, it's worth comparing the energy values with the food rations of a farmhand working on a rich man's farm. A physically working individual consumed food with a total value of up to 4000 thousand kcal. In today's times, people who work physically hard are recommended to eat meals not exceeding 3000 thousand kcal per day.

The lavish eating of the rich was known in all courts in Europe. In France, culinary arts developed so intensely that it was desirable to have court chefs who created new, impressive dishes.

Ceremonials of feasts and etiquette necessarily accompanied the richness of eating meals. Attention was paid not only to the tastiness of the dishes but also to the utensils in which the meals were served. I mentioned that three tables were set for feasts. The first was the main one, where the host and guests sat. The remaining two had dishes (glass for beer, silver for wine, wooden for feast service) and dishes coming from the kitchen, as well as already emptied platters.

In the Polish noble tradition, meals were eaten at four times of the day. Breakfasts were eaten in the bedroom, lunches were served in the dining room around 12 o'clock. Afternoon tea was had between 16-17 hours, while dinner was eaten late in the evening.

Comparing such customs with, for example, the French rhythm of eating meals, where fresh bread and cold cuts were served for an early breakfast, at noon the so-called breakfast, during which the second course without soup and dessert was consumed. At 20 o'clock, a meal consisting of two hot baked dishes, including one with vegetables, and wine was served. It's no wonder the disappointment of the Polish elites who went into exile in France during the partitions.

Later Polish elites, originating from 16th-century noble families, painfully felt the customs and practices prevailing in the country of the Franks. They complained about smaller portions, the late hour of serving dinner (actually already supper). They were offended by too thick soups, ubiquitous greens, replacing butter with olive oil. They observed with horror how the French devoured seafood...

As you can see, a simple comparison of the dietary customs of the rich in two nations, without an in-depth analysis of the cultural influences of other European countries over the centuries, highlights how essential is the tribal/national context of the tradition of the communal table.

Traditions and customs on other continents are shaped differently. I mean eating meals only and exclusively with the right hand (India) or using chopsticks (Japan).

You see, the topic is as broad as the Nile Delta ☺

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