

Methods cooking - from the most harmful to the most beneficial

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Abstract. The article describes 18 main methods of cooking, as well as the beneficial and dangerous properties of each method. Let's figure it out together - which cooking method is the healthiest, and which one is better to exclude from your daily diet.

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Roasting over an open fire



Who among us doesn't like to sit by the fire, listen to songs with a guitar, and maybe even fry mushrooms, freshly caught fish or quail over the fire. It is this method of cooking that we will talk about.

This method arose back in those distant times, when people dressed in skins, and there was no talk of the existence of frying pans. Then everything was eaten raw, from vegetables to meat and fish.

And so, one fine evening, when the tribe gathered around the fire, one of the boys, playing with food, strung it on a stick and placed it over the fire. And even though the stick was charred in some places, and the products did not have the taste that can be given to them using all modern knowledge about frying, it was a very valuable discovery for that time.

Now, for frying over an open fire, they use metal knitting needles called skewers rather than sticks. It is on them that barbecue is fried.

In order for the kebab to be juicy and have good taste, the meat used to make it should not be burnt. In addition, to ensure that the juice remains inside, the meat is first subjected to high heat, and then switched to low heat. This is accomplished by partially flooding the fire with water. As for kebabs, red

wine is used instead of water, which gives the meat a unique taste and aroma. During frying, it is necessary to periodically turn the skewer so that the meat is fried evenly. In the old days, when meat was not so expensive and game was abundant, spit roasting was used. This is the same frying as on a skewer, only instead of skewered pieces of meat interspersed with onions and vegetables, a pig, lamb or a whole bull was skewered. Everything depended on the appetite of its owner.

Shish kebab is not only meat, but also vegetarian. For it, as a rule, they use zucchini [1], eggplant [2], tomatoes [3], onions [4], mushrooms and other vegetables, which are convenient to thread on a skewer, the main thing is that there is no excessive moisture. It is this requirement that is taken into consideration when tomatoes are selected. They shouldn't be too juicy. It is better to take varieties used for salads.

After the products are skewered, they are placed over the fire. In this case, the height is selected so that they are not in direct contact with the fire. This is what water is used for. As a result of spraying the firewood with water, the fire disappears, and the heat emitted by the firewood continues to affect the food. In addition, substances contained in the firewood rise along with the steam. Therefore, it is not advisable to use coniferous wood for frying. The food obtained from them will be bitter and unappetizing in appearance. The best choice for frying is grape or fruit wood.

As for frying meat, it can be fried in small pieces on a skewer, or cooked directly on the bone. The most popular dish is the fried ribs. A skewer is not suitable for cooking them. In this case, you need to get a barbecue. This is a grill on which food is laid out and then fried. It is on this that the ribs are laid out.

As a result of barbecuing, the bones heat up and cook the meat from the inside. Thus, cooking time is significantly reduced.

In addition to ribs, you can also fry pieces of meat up to 2 cm thick on a barbecue. The meat cut into pieces is pre-marinated in a mixture of vinegar and aromatic herbs. As a result of this, it goes through the stage of primary processing. The meat becomes softer, tasty and juicy. Proteins are easier to digest. And spices give the meat excellent taste and aroma.

Health benefits of food cooked over an open fire

Thanks to frying over an open fire, products acquire a beautiful appearance and aroma that has been familiar to mankind since ancient times. As for taste, foods fried over a fire are considered delicacies.

As you know, the desire to try this or that dish arises in us when we look at it. If it has a beautiful appearance and the smell tickles the nostrils, gastric juice automatically begins to secrete. We want to try it!

Fried foods are more easily absorbed by the body, supplying the body with complete building material.

Dangerous properties of food cooked over an open fire

As for the harmful properties, they consist in the fact that foods fried over fire can irritate the mucous membrane of the gastrointestinal tract. This is due to the substances present on the surface of the product. In addition, fried foods can cause cancer. This is due to the fact that as a result of burning wood, carcinogenic substances are formed in the smoke, which then settle on the surface of the food.

Therefore, in order to be healthy, people suffering from stomach ulcers, gastritis, enterocolitis, as well as diseases of the cardiovascular system should eat fried foods in limited quantities, and also cut off the top, most fried layer before consumption.

Frying in oil or lard



Well, who among us doesn't love a freshly fried cutlet or rib meat? To make them tasty and juicy, a culinary technique such as frying is used. However, there are two types of frying: in a frying pan and over an open fire. In this article, we will touch on frying using a frying pan.

Frying in a frying pan is only good if the product being processed does not burn or acquire a bad taste. This can be achieved using oil or lard. Now let's figure out how they differ.

Oils used for frying are predominantly of vegetable origin. These include: sunflower, corn, olive, peanut and cottonseed oil. Lard is the name given to oils of animal origin. These include: lard, lamb fat and other less common fats.

In order to fry foods using oils, you need to ensure that the amount of oil used corresponds to one serving of the product. This requirement corresponds to human environmental safety. Oils taken in quantities exceeding the required amount, upon subsequent use, as you might guess, are subjected to reheating, as a result of which a chemical reaction called polymerization begins, and the oil that has undergone it becomes drying oil. But no one would agree to eat drying oil. The same property of oil also applies to deep-frying.

As for the types of oils, the cheapest is, as you might guess, ordinary sunflower oil. However, in order for products prepared with it to be beneficial to the body, the oil must have the following characteristics:

- Environmental friendliness . No heavy metals.
- Should not contain water.
- Without smell.

Now let's look at all these requirements in more detail.

Due to the fact that sunflower fields are located near roads, the oil found in the seeds is rich in heavy metals such as lead, cadmium, strontium. This is due to the fact that the exhaust gases of passing cars are rich in all these compounds. Sunflower, by its nature, draws in up to a bucket of water during the day. And substances that enter the soil from exhaust gases automatically end up in the oil obtained from such sunflower. The only way to avoid consuming these metals in food is to buy refined oil.

When it comes to moisture, freshly pressed oil is rich in water. As a result of frying in such oil, burns caused by "shooting" of the oil are possible. In order for the little to not shoot, it must be completely separated from the water.

Smell. As you know, freshly pressed oil has a characteristic sunflower aroma. Depending on the variety, time of collection and air humidity, the smell may vary in intensity. When frying, the aromatic components are destroyed, and the product fried in such oil acquires a very unpleasant aroma.

Therefore, the best choice of oil for frying is refined, dehydrated and deodorized oil. Experts, for example, advise using oils that have several degrees of purification. Seven is better. The product obtained by frying in such oil has a smell peculiar to it.

As for other oils, they are also suitable for frying. The only condition for their use is the need not to overheat them.

As for frying in lard, its use has a beneficial effect on the body only if it is not overheated. When overheated, carcinogenic compounds are formed. Therefore, in order to live happily ever after, you need to fry without exceeding the permissible limit for both oil and lard.

Beneficial properties of food cooked by frying in oil or lard

As a result of frying, products not only acquire a pleasant aroma, but also their taste and nutritional qualities improve. Thanks to this, they are more easily absorbed by the body. Their components are more easily integrated into the general structure of the human body, due to which people who eat fried foods have a healthier appearance compared to those who eat them only raw.

Dangerous properties of food cooked by frying in oil or lard

For many diseases of the gastrointestinal tract, as well as for diseases of the cardiovascular system, eating fried foods is strictly contraindicated.

This is due to the fact that foods that have been fried in violation of the requirements specified above can cause stomach ulcers, diverticulitis and even cancer. In addition, the lard used for frying contains an increased amount of cholesterol, which can cause blockage of blood vessels, called atherosclerosis.

Baking



Baking is one of the ancient ways of cooking. Previously, hot coals, tandoors, hearths, and ovens were used for baking.

Today, ovens are most often used for this purpose, sometimes miracle stoves, convection ovens, and when camping, simply coals from a hot fire.

Baking is the process of cooking food in various ovens and fryers. In this case, the products usually develop an appetizing, golden-colored crust.

You can bake almost any food. For example, fish, meat, vegetables, fruits. They don't bake in ovens, except for cereals. In general, the art of baking is a whole science. Here it is necessary to take into account the temperature required for a particular product to be fully cooked, the baking method that makes the product as juicy and tasty as possible.

For example, experts recommend not to clean or gut fish before baking. It is believed that in this case the fish dish will be especially juicy and tasty, otherwise, when the juice runs out, you can simply throw it away.

Nature itself ensures complete sealing of the fish. But what if you need to bake meat, pieces of fish or vegetables? After all, meat, for example, in most cases is baked in separate pieces, and not whole! In this case, a simple modern invention comes to the rescue - culinary foil, which preserves the juiciness of the products baked in it, as well as, very importantly, their natural taste and aroma.

Aluminum foil can be easily found at many hardware stores. It is sold in rolls. Meat, vegetables, poultry and fish are baked in foil. The only exceptions are fruits and cereals. The most popular and delicious dishes cooked in foil are potatoes [5] with bacon and cheese, beef with mushrooms, chicken with carrots [6] and many others. Individual products are also popular, for example, fish with spices, baked poultry, potatoes, which taste like those baked in a fire.

To cook in foil, it is necessary to ensure that the food is completely sealed, which is obtained if it is properly wrapped. To do this, place a piece of packaging foil on the table, laying the product on one half of it, while covering it with the other half. The free edges are folded several times, ironing the seam each time. The foil is then crimped to the shape of the product and the bag is placed in the oven.

If everything is done correctly, then the dish after cooking will turn out juicy and aromatic! The readiness of the product is determined by the charring of the edges of the foil. Some experts allow piercing the foil at the very end to accurately determine the degree of readiness.

Most often, vegetables in foil are ready after 10 - 15 minutes of baking, fish in foil is baked in 25 minutes, chicken is usually ready to eat in 40 minutes, and beef (1 kg) is cooked in about an hour. Dishes in foil are baked on a baking sheet, wire rack, or in a frying pan with a lid, depending on the recipe.

Each type of product has its own specific rules for baking. So, for example, in this case the fish is gutted, scaled, and washed. After drying, cut into pieces, generously salt, bread in flour with spices and wrap in foil.

The gutted chicken carcass is washed and dried, sprinkled with spices and tied with thread (so that the foil does not tear). Then they proceed according to the template.

Vegetables are peeled, washed, dried, and, if necessary, cut into pieces. Lightly add salt, wrap in foil and place in the oven.

In this case, you should be guided by the rule: the higher, the hotter. Therefore, the most delicate vegetables (not root vegetables), for example, cauliflower, are placed at the bottom, meat products can be placed at the top or in the middle position.

Useful properties of baked food

Baking in foil helps preserve the natural taste and aroma of the dish to the maximum. The products are more juicy, with minimal loss of nutrients.

Baked foods prepared without oil are very useful for people who want to lose weight. This same method is adopted by people who prefer to lead a healthy and active lifestyle.

And the crust formed during baking is very similar to fried, with the only difference being that it does not contain harmful fats and is healthy for almost everyone.

Dangerous properties of baked food

If higher temperatures are used for baking, the natural fats contained in the food begin to burn, forming carcinogens from overheated fats.

Baking contributes to the loss of B complex vitamins in products. [7] Their content in the finished dish is reduced by 25%. Vitamin C is also partially lost under the influence of temperature. [8]

Baked foods, especially improperly prepared ones, can irritate the gastrointestinal tract, so for some diseases of the digestive system, eating such foods is not recommended.

Extinguishing



In cooking, stewing is a cooking procedure that is intermediate between frying and boiling. Stewing is always carried out under the lid in the presence of a small amount of liquid and fat. In addition to the classic extinguishing procedure, there are some less common varieties of this method:

- **Poaching** is simmering in a small volume of liquid for several minutes.
- **Simmering** is slow simmering over low heat for a long time.
- **Confit** - stewing in oil. Often used in French cuisine. Most often used for fish or meat. The extinguishing temperature should not exceed 100 degrees.

Cooking method

The stewing procedure is applicable for cooking vegetables, fish, poultry and meat, as well as fruits. Having much in common in the technology of preparing various products, stewing has a number of features that are used exclusively in certain cases.

Here are a few rules for properly preparing foods:

Food is usually stewed in water, broths, and sauces. Particularly juicy products are in their own juice.

Extinguishing is done over low heat.

Tough meat is pre-marinated in wine or vinegar, or stewed together with sour vegetables, such as tomatoes or sour fruits.

Stewing is always done under a lid, which, according to many culinary gurus, is best not to open until the end of cooking. Of course, if you know exactly the cooking time of the dish!

Products intended for stewing are cut into identical portion pieces, which avoids deformation and under-braised parts of the dish.

Stewing vegetables

The most famous dish prepared using this method is vegetable stew. Of course, every housewife prepares this dish in her own way; we will give only the general technology for its preparation.

Vegetables intended for stewing are washed, peeled, and then chopped. Cut the potatoes into cubes and place them in a frying pan, then add water and simmer over medium heat (to prevent the potatoes from falling apart, you can first fry them in oil for 2-3 minutes until golden brown). Place pre-chopped onions and carrots in a separate frying pan, lightly fry, cover with a lid and simmer until half cooked.

Then they check the potatoes. When it is almost ready, finely chopped cabbage is added to it. After about a couple of minutes, add the stewed onions and carrots. Salt and spices are added to taste.

To ensure that the oil retains more nutrients, it can be added at the very end of cooking the stew. The preparation time of the dish takes about 40 minutes. You can add a variety of vegetables to the stew, experimenting with taste. Depending on the season, peppers, zucchini, cauliflower, asparagus, tomatoes and, of course, different types of greens are added there - all this will organically fit into the overall ensemble of taste of vegetable stew.

In addition to stews, the most popular vegetable dishes prepared by stewing include squash, beet and eggplant caviar, stewed potatoes with mushrooms, as well as the Hungarian national dish "leczó".

Stewing meat and poultry

Meat or poultry, pre-prepared and cut into equal pieces, is flavored with spices. The meat is beaten. The finished products are placed in a well-heated frying pan in hot oil. Fry until golden brown for 2-3 minutes, then cover the pan with a lid and simmer until done. The golden brown crust resulting from frying prevents the juice from leaking out, making the meat very tasty, tender and juicy.

Poultry and meat acquire a particularly piquant taste after soaking them in a marinade for 8-10 hours (vinegar or wine with spices and a little mayonnaise)! Although this cooking option is often used in the holiday menu. It does not apply to dietary nutrition. Pickled foods are prohibited for people with many gastrointestinal problems.

Stewing fish

The fish is cleaned, freed from entrails and scales, and washed. If the fish is large, cut into pieces of the same size to ensure uniform cooking. Pour flour into a separate saucer and prepare salt.

The fish is salted, rolled in flour and placed in a frying pan in preheated oil. After a crust has formed, the product is turned over and lightly fried on the other side. Then add a little water and simmer until done.

Useful properties of stewed food

Stewing is on the list of the healthiest cooking methods. This method is used by many people leading a healthy lifestyle. Stewing allows you to preserve a large amount of nutrients, which remain in the finished dish, and are not drained along with water, as, for example, during cooking.

From the point of view of maximum nutritional value of food, this method can be considered one of the most gentle, due to the preservation of a large amount of vitamins and microelements in the products.

The cooking process occurs at a temperature below the boiling point, which allows not only to preserve vitamins, but also the original shape of the dish.

In stewed form, animal and vegetable proteins are better absorbed [9], due to the softening of fibers and tissues. And some foods even provide additional nutritional benefits. For example, during stewing, prunes acquire a sweet and piquant taste, and healthy enzymes are released.

Dangerous properties of stewed food

Excessive consumption of heat-treated food contributes to the deterioration of the gastrointestinal tract due to a lack of fresh plant fiber in the diet.

By eating only stewed food, you can acquire dysbiosis, worsen intestinal motility, and, in general, sabotage the normal functioning of the digestive organs.

In addition, during stewing, a gradual destruction of vitamins B and C occurs. Their amount is reduced in proportion to the cooking time.

Cooking



Since ancient times, such a method of cooking as *cooking has reached us*. Archaeologists believe that ancient people invented it after cooking over fire and baking in ash. Numerous archaeological and ethnographic expeditions were finally able to establish the method by which the ancients boiled their food. It turns out that for this they used stones with a depression, into which water was poured and food intended for cooking was placed, and a fire was built around the stone. Also, for cooking, stones heated in a fire were used, which were then lowered into a hollowed-out wooden container, previously filled with water.

Cookbooks say that cooking is a method of cooking food in any liquid or vapor medium, excluding oil. Most often this liquid is water, sometimes milk, juice.

General description of the method

Boiling is one of the most traditional methods of cooking. In this way, soups, compotes are prepared, vegetables, fruits, fish, and meat are boiled. This method is an intermediate link in canning fruit, vegetable and canned meat. Today, there are several varieties of this method: the traditional method, quick cooking, cold cooking, simmering and steam cooking.

Traditional way . Used in everyday life for preparing first and many second courses. In order to cook food, it is necessary to immerse previously prepared foods (vegetables, fruits, mushrooms or meat) in cold or hot water. The remaining components of the selected dish are added during the cooking process, depending on the time required for their readiness.

So vegetables and mushrooms are usually boiled for an average of 25 minutes to 1.5 hours (for example, potatoes and beets); cereals from 15 to 50 minutes (depending on the variety); chickens, ducks, turkeys, geese from 45 to 90 minutes respectively, meat, on average, is cooked from 1 hour to 1.5 hours.

It is believed that in the case of preparing first courses and compotes, it is better to immerse the necessary products in cold water (all vitamins will remain in the broth); for preparing second courses of vegetables and cereals, water brought to a boil is better suited. It is believed that in this case, more vitamins will be retained in the products themselves.

It is usually prepared by cooking over medium heat. It is important that the boiled product is covered with a small volume of water to retain the maximum amount of nutrients. So, to boil poultry, you need to pour cold water, which will only cover the bird by 0.5 centimeters; for meat, 1 centimeter is needed. At the same time, do not forget to remove the foam when boiling.

Fast cooking . In the 30s of the last century, the method of cooking using pressure cookers became widespread. This method is often used for quickly cooking meat, vegetables, as well as homemade canned fish and meat. Thanks to the autoclaving effect , the cooking time of various dishes in pressure cookers is significantly reduced, and the bones found in meat and fish become edible.

Cold cooking . In 1977, in Sweden, thanks to the efforts of scientists, a unit for quickly cooking food in cold water was invented. Since then, Swedes have used this electrical appliance to prepare large batches of food for hospitals, canteens and schools. Cold water is used as a conductor for this cooking. Thanks to this, the maximum amount of vitamins is retained in food.

Languishment . This option simulates cooking in a Russian oven. Since 1980, new electrical appliances for the kitchen have become widespread in our country - slow cookers . With their help, food is cooked slowly, over 5-6 hours. But it is precisely with this method of preparation that food is able to fully reveal its taste.

Steam cooking . It is considered the most useful way of cooking. Vegetables, dough and cottage cheese products, and meat dishes are prepared in this way. For example, we are all familiar with steamed cutlets and meatballs. Steam cooking is also good because foods prepared using this method are gentle on the stomach.

Useful properties of boiled food

Let's start with the first courses, which are very useful for almost everyone. For those wishing to gain an ideal weight, the French recommend eating vegetarian soups for dinner, and it is better if it is their famous onion soup.

The liquid creates a feeling of fullness in the stomach without overloading the digestive tract in the evening. In addition, especially if the first dish is vegetarian and low-fat, metabolism is stimulated.

First courses are recommended for everyone to prevent disorders of the gastrointestinal tract, and they are also necessary for maintaining optimal water balance in the body.

Boiled dishes are indicated for stomach and duodenal ulcers, allergies, dysbacteriosis, are prescribed to people weakened after illness, and are included in the daily diet of adherents of a healthy lifestyle.

In addition, soups, cereals, boiled lean meat form the basis of dietary nutrition, which is extremely necessary for everyone who values health. This is due to the fact that when we eat dry food, our stomach is exposed to high concentrations of gastric juice, and the consumption of various soups, broths and borscht significantly reduces the risk of stomach ulcers.

Dangerous properties of boiled food

There is now an ambiguous attitude towards this method of cooking. Some believe that the method is useless, since it destroys up to 70% of vitamin C and up to 40% of B vitamins.

There may be some truth in such a statement, but we should not forget that by combining cooking methods, as well as using this method correctly, you can achieve a complete and balanced diet. In addition, for some diseases of the gastrointestinal tract, this method of cooking is considered more gentle and contributes to a speedy recovery of patients.

For a couple



Steaming is one of the most ancient ways of cooking food. In this way, our distant ancestors softened fruits and vegetables, roots and fish on stones near hot springs.

Steaming is one of the most beloved culinary methods of the Chinese, which is renowned for its longevity and health. In our society, this type of cooking is mainly known as dietary, recommended by doctors for the prevention and treatment of diseases.

General description of the method

Steam cooking is considered one of the healthiest and most natural methods. After all, during steaming, food retains the moisture necessary for the body. In addition, it is believed that brown rice and some other grains that are steamed lose much less B vitamins than boiled grains.

You can steam almost any product, from vegetables and fruits, cereals to meat and fish delicacies. Steamed dumplings and dumplings, egg and seafood dishes, cutlets, meatballs, and pies are excellent. As well as desserts such as muffins, casseroles and even cakes. Just remember that there are foods that are simply not recommended to be steamed. These include:

- Noodles (may lose their original shape);
- Mushrooms. They often contain harmful substances. Many of them require pre-soaking or boiling;
- Vegetables and fruits that have any defect. The cooking process may increase the unpleasant taste.

Today there are many different devices for preparing steamed dishes. They differ in functionality, volume and number of simultaneously prepared dishes. But they are all united by a common principle of operation: the water in the container boils, and the food, located in a special basket or other container, is heated under the influence of steam and brought to readiness.

The cooking time for steamed products is slightly shorter than those prepared by frying and boiling. In addition, the method is recommended as simpler. There is no need to constantly monitor the cooking process: the food does not burn or boil over, and there is no need to turn it over, which is another significant advantage of this method.

There are many ways to steam food. Let's look at three of the most common ones.

- **Method 1**

An ordinary saucepan half filled with water and a colander covered with a lid on top can quickly turn into a real double boiler. This method of steaming is recommended in case of infrequent preparation of steamed dishes. The advantages include the low cost of the method and its accessibility for everyone.

- **Method 2**

A store-bought steamer is an improved version of the first method. The device includes a pan with a special insert - a perforated container for food. A big plus is that the lid fits tightly to the device, which maintains the temperature necessary for quickly cooking any food, even slow-cooking ones.

- **Method 3**

An electric steamer is the most convenient and popular type of steamer. Today you can find electric steamers designed for different volumes and numbers of dishes being cooked at the same time. In these miracle devices you can prepare 3 dishes in just 30 minutes: for example, fish, a side dish and a cupcake. Electric steamers turn off when the water boils, have a cooking delay function, a heating mode, sterilization mode and many other convenient functions. It all depends on the brand of the device and its price category.

Health benefits of steamed food

Steam-cooked food allows you to provide complete and balanced nutrition for the whole family in a short period of time. Dishes in a steamer turn out bright, beautiful and attractive. They retain a large amount of vitamins and minerals, and natural moisture remains, which allows such products to be more easily absorbed by the body without irritating the gastrointestinal tract.

Steam dishes are especially recommended for people suffering from gastrointestinal diseases, nervous exhaustion, and are indicated for anyone who often finds themselves in a state of increased nervous tension.

Steam does not contain heavy metal impurities, which are often found in hard chlorinated water. This means that the dishes turn out to be more healthy than boiled ones.

Nutritionists claim that steamed dishes have a beneficial effect on the condition of hair, skin [10], and nails. These dishes are indicated for people with diseases of the cardiovascular system, as well as for their prevention, since they do not contain large amounts of cholesterol and toxins.

Dangerous properties of steamed food

There are practically none if you follow the cooking recommendations. The only thing that lovers of delicacies may not like at first is the bland taste of steamed dishes. But this can be easily fixed. At the end of cooking, you can add various sauces to the dishes, sprinkle them with spices and add spices.

Pickling



In Rus', pickling was considered one of the most beloved and popular cooking methods. Regular consumption of pickled vegetables made these people especially strong and resilient.

Pickling is a type of preservation of vegetables, berries and fruits, during which, under the influence of physical and chemical factors, lactic acid is formed, which is a natural preservative.

Apples [11] and watermelons [12], cucumbers [13] and tomatoes, onions and garlic [14] are fermented, but the main role in this type of preservation undoubtedly belongs to cabbage [15]. Cabbage is usually fermented in winter and early spring, as well as in late autumn, in order to strengthen the body and prevent all kinds of seasonal diseases.

This is interesting:

During the Great Patriotic War, sauerkraut was the most important dish on the table in Russian families. This is probably what helped the people maintain their body's defenses and survive in such difficult times. We ate cabbage for breakfast, lunch and dinner. And although this dish seemed boring to everyone, the huge amount of vitamin C contained in sauerkraut [16], defended an organism weakened by war and deprivation .

General description of the method

To ferment vegetables, a solution consisting of 7-8 grams of table salt dissolved in 1 liter of water is used. Barrels have always been used for fermentation. Today, people more often use enamel pans, and

sometimes three-liter jars. You can use other pans, but experts recommend covering them with two layers of polyethylene to avoid contact of pickled vegetables with metal.

After the choice of dishes has been made, you can begin to pre-prepare the vegetables.

Vegetables must meet the following characteristics:

- Look healthy.
- Have good turgor.
- Do not have putrefactive damage.
- Be ripe, but not overripe.

Vegetables are cleaned of inedible parts of plants (tops, leaves, husks and damaged parts that may contain pathogenic microorganisms).

If the size of the vegetable is such that it does not allow fermentation as a whole, it is chopped (for example, cabbage).

After the vegetables are prepared and washed, they are placed in the dishes so that there is a little space between them. This is necessary so that the brine can thoroughly soak all the vegetables. When the fruits are laid, you can start pouring the brine. Despite the fact that its concentration is 7-8%, in vegetables it will be present in an amount of 3.5 - 4.5%. The brine is prepared by dissolving the required amount of salt in warm water. It is necessary that the brine completely covers the cooked vegetables.

Vegetables drenched in brine are placed under pressure (a three-liter jar, a bottle filled with water). During the fermentation process, some of the brine may leak out. To prevent this, it is advisable to remove accumulated gases daily by piercing the thickness of the vegetables with a knife or long fork.

The fermentation process itself takes, on average, from 3 to 7 days. In this case, the room temperature should be within 18 -24°C. If it is lower, the fermentation time will increase, and at a temperature of about 0°C it stops altogether. At temperatures above + 24°C, the development of pathogenic microflora can begin.

Vegetables are checked daily for readiness.

There is an opinion among people that it is better to ferment cabbage on Wednesday (on “women’s” day), then it will turn out more tasty and crunchy.

The second fermentation method is suitable for chopped vegetables. Such vegetables are carefully ground with salt, pressed tightly into three-liter jars, or placed in enamel dishes. And a pressure is placed on top (for example, a three-liter jar of water on a large plate). On average, after 3 to 4 days of fermentation, the vegetables can be placed in a cool place. The fermented product is ready!

Useful properties of food prepared by fermentation

As a result of fermentation, the sugars in vegetables, under the influence of lactic acid bacteria, are converted into lactic acid, which suppresses the development of pathogenic microflora in the body.

The nutritional value of pickled vegetables is unparalleled! Fiber remains virtually unchanged. The level of sugars decreases, and instead of them, organic acids are formed, which have a beneficial effect on the gastrointestinal tract, increase immunity and prevent various infectious diseases, which is very important in the autumn-winter period.

Dangerous properties of food prepared by fermentation

It is not recommended to consume pickled vegetables for people who have diseases such as stomach ulcers, gastritis, diverticulitis and other gastrointestinal diseases associated with high acidity.

For everyone else, eating pickled vegetables is not only possible, but also very healthy!

Drying fruits and vegetables



Drying is one of the oldest methods of preserving vegetables and fruits, which is used not only by people, but also by some animals. And this is no coincidence. After all, dried fruits and vegetables are a storehouse of vitamins and microelements necessary for the body. That is why drying is one of the most useful and environmentally friendly methods of cooking and food preparation. The most popular products prepared in this way include dried apples, pears, plums [17] and apricots [18], sold by grandmothers for “compote”. Dry dill [19], parsley [20] and mushrooms perfectly diversify winter types of first and second courses. Of the dry foods sold in stores, dry bananas have recently become especially popular [21], and prunes have always been in demand. With dried apricots the situation is more complicated, since not all types of this dried fruit are equally beneficial for the body, but more on that later. Dried vegetables are now most commonly found in seasoning formulations, instant soups, and dry pet foods.

Cooking method

Vegetables and fruits are dried in the sun, as well as in special devices for artificial drying. But most often the first and second methods are combined. The combined drying method allows you to preserve a large amount of nutrients in products prepared for future use and avoid their rapid spoilage by moths.

For drying, choose a well-ventilated place under a canopy (this will protect the food from spoilage in case of short-term rain). Frames are made from wooden slats, onto which a mesh is then stretched (anti-mosquito mesh can be used) and secured with buttons or nails.

After this, pre-chopped vegetables and fruits are placed on a special suspended structure fixed under a canopy to dry on prepared frames with nets.

Instead of such frames, trays are sometimes used, but they are not suitable for all vegetables and fruits, since in some cases especially juicy products may begin to spoil due to lack of air access.

After the fruits and vegetables have completely dried, they are slightly heated in the oven to prevent the appearance of various living creatures. And then they are poured into three-liter jars and closed with lids. During the winter, they look through the preparations once or twice and, for prevention,

lightly dry them again in a slightly open warm oven. But not in a hot oven, the hand must withstand the temperature!

How to choose the right dried fruits?

If you don't dry fruits and vegetables yourself, it's worth taking note of some recommendations. Signs of a quality product:

Dried fruits appear slightly darker than their normal color. Apricots and pears turn brown.

Dried fruits do not stick to your hands and have a pleasant natural smell.

There are no traces of mold or signs of living creatures.

Dry golden apricots, which can often be found on the shelves of supermarkets and markets, are pre-fumigated with sulfur and therefore cannot be considered a completely natural and environmentally friendly product!

Beneficial properties of dried fruits and vegetables

Dry fruits and vegetables retain most of the vitamins and other beneficial substances found in fresh vegetables and fruits. Such products help well with vitamin deficiencies, depression, anemia, heart disease, and are excellent sources of natural vitamins in the winter season.

For example, dried apricots and raisins are very useful for strengthening the heart. Apples and especially dry apple peels will help with increased intracranial pressure and edema; dry greens are an excellent source of magnesium, necessary for strengthening the nervous system. Dry vegetables and fruits are often used on long hikes and expeditions in tandem with protein products. [9]

Dangerous properties of dried fruits and vegetables

Do not forget that dry vegetables and fruits contain all substances in a particularly concentrated form. Therefore, it should be taken into account that by eating about 100 grams of dry food, you receive 5 times more nutrients than is contained in fresh products.

Therefore, dried fruits may be contraindicated for diabetics due to high glucose levels, and allergy sufferers should be especially attentive to dried vegetables and fruits, especially those that can cause allergies in large quantities.

It is advisable for people with gastrointestinal tract diseases to consume dried fruits in boiled form.

In order to minimize the harm from eating dried vegetables and fruits, it is advisable to soak the dried fruit in water before use so that it restores its original moisture supply.

Drying fish and meat



Back in the 20th century, scientists proved the benefits of people consuming meat and fish, due to their content of large amounts of amino acids necessary for the functioning of the body.

The main purpose of fish and meat as food is to replenish the body with essential amino acids, without which protein synthesis is impossible. A lack of amino acids in the diet can lead to stunted growth in children, the development of atherosclerosis and a decrease in the endurance of the body as a whole.

Therefore, since ancient times, people have become accustomed to taking dry meat and fish on expeditions and hikes, which have recently been partially replaced by canned meat and fish. But despite this, dry meat and fish still have some advantages over canned food.

The main advantages of dry meat and fish products, in comparison with canned food:

- Much less weight of products.
- Naturalness.
- Lower cost.
- Excellent taste.
- Possibility to use them as a traditional beer snack.

Method for preparing dry meat and fish

To dry meat, beef is usually used, preferably steamed, but it is also allowed after the first defrosting . The fish selected are not very large in size for faster drying. Fish and meat are washed and, if necessary, cut into pieces (the fish is often dried completely, removing the entrails, and the meat is cut into large pieces). Then soak for a day in a salty solution. After this, the process of preparing fish and meat proceeds in different ways.

The fish is strung on a strong thread or twine (depending on the size of the fish) and hung to dry in a well-ventilated place. Depending on the weather, drying fish can take from 4 days to 10. Sometimes people dry fish in a gauze cover, which protects the product from insects and is considered a more hygienic type of drying. Finished, well-dried fish is usually stored wrapped in paper, in the refrigerator, or simply in the grocery cupboard.

After keeping the meat for a day in salted water under pressure (you can add onions and spices there), the meat is cut into smaller pieces, dipped in salt and placed on a baking sheet with a wire rack. Typically, 1 standard baking sheet takes about 1.5 kg of meat.

If there is no ventilation in the oven, open the oven door 2-3 centimeters; if there is, turn on the ventilation mode. Dry at a temperature of 50-60 degrees Celsius for 10-12 hours. The finished product can be stored in ordinary glass jars with lids for a long time.

Dry meat can be consumed both raw and boiled.

Beneficial properties of dried fish and meat

Dry meat tastes good and is healthy for healthy people; it has very high nutritional value. Being complete sources of essential amino acids, dry meat and fish are 100% natural products, without excess amounts of fats harmful to the body. [22]

Dry fish is a source of Omega class polyunsaturated acids, which protect blood vessels from clogging, maintaining their strength and elasticity. It is thanks to Omega 3 that the concentration of cholesterol in the body decreases, the risk of heart disease [23], brain [24], and blood vessels is reduced.

In addition, dry fish contains vitamins A [25] and D [26], which are necessary for the skin, nails, eyes, hair and human skeleton. Sea fish is especially useful due to its iodine [27] and fluorine [28] content, which are used by the body to nourish the thyroid gland and teeth.

Dangerous properties of dried fish and meat

Dry meat and fish should not be consumed by people with gout, as well as people with gastrointestinal disorders, due to the high content of protein and salt in these meat products. Such products are also contraindicated for people suffering from high blood pressure, due to the property of salt to retain fluid.

Dry fish sometimes contains helminths, which can cause helminthic infestations. Therefore, it is advisable to consume only well-dried sea fish in dry form, which practically does not contain worms. Exceptions: ram and herring, which are dangerous not only in dry form, but also in other ways of preparing them.

Salting fish and meat



One of the common methods of preparing fish and meat is salting. Thanks to this cooking method, products become resistant to bacteria. In addition, enzymatic processes are delayed due to partial dehydration of meat and fish. The shelf life of products during storage depends on the percentage of salt in the finished product.

The best choice for salting is fish that has few small bones, which prevents injury when eating salted fish, and it is better to choose meat that is not too fatty. Otherwise, it will increase the cooking time.

Methods for salting fish and meat

Salting of fish and meat is divided into two types: dry and wet. Dry salting is a method of preparing meat and fish dishes in which the product is covered with a layer of salt. At the same time, the salt takes moisture from the surface and penetrates inside. As for wet salting, it involves aging fish and meat in the brine that these products release during the salting process.

- **Ambassador fish**

In order for the fish to be ready for salting, it must be cleaned of scales and entrails. After all the preliminary preparations are completed, it's time to start salting.

Salted fish can be lightly salted if it contains about 10 percent salt, and highly salted if the salt content exceeds 20 percent. Roach, perch, rudd, bream, small pike and other fish weighing up to 0.5 kilograms are usually salted using the wet method. The dry method is suitable for larger fish weighing more than 1 kilogram.

Wet salting of fish: the fish is placed in dense rows in layers in containers. Each layer is well sprinkled with salt and spices. Then a special circle or lid is placed on top of the fish, and pressure is placed on top, for example, a stone that has been thoroughly washed and doused with boiling water. In the cold, the fish is salted for 3 days. Then it is soaked and dried.

For subsequent drying or drying, fish such as ram, pike perch, roach, ulcer, salmon, eel, bream and other species are chosen, in which the amount of fat should be such that when dried the fish becomes amber-transparent.

Brining involves keeping fish in brine. The brine is made at the rate of 100 grams of salt per liter of water. Soaking lasts from 3 to 10 hours depending on the size of the fish. Then the fish is removed from the solution, wiped, tied with twine and hung to dry.

In order for the fish to dry as quickly as possible and retain all its beneficial properties, it is necessary that it dry in the wind. This can be achieved either by hanging the fish at a height of 2 meters somewhere in a hot draft, or by creating such a draft yourself. To do this, the fish must be placed in some kind of wind tunnel, at one end of which a powerful fan with a hairdryer function must be placed. In this case, the time required for drying will be significantly reduced.

During the drying process, moisture located in deep layers gradually rises to the surface, and salt, on the contrary, penetrates into the depths. If you dry fish using the first method - in the wind, you will need to protect it from flies and wasps. The former can lay eggs on the fish, while the latter will simply eat your fish, leaving only bones covered with skin.

- **Meat ambassador**

Salted meat is especially popular in the countries of Central Asia, although in villages people also remember these ancient recipes. The most common dishes include basturma, sudzhuk and corned beef, as well as dry meat (for hiking).

Corned beef is prepared as follows: The meat is cut into small pieces and sprinkled well with salt and spices, then placed in a prepared container and kept in the cold for about three weeks, stirring periodically. The meat is then hung to dry and kept in the air for about a week.

To salt meat and then dry it, the product is cut into slices 1.5-2 cm thick. Then each piece is placed, by analogy with fish, and thoroughly salted. Often, when salting meat, spices are added to the salt, which, as a result of salting, penetrate into the meat. As a result, it acquires a more refined taste and aroma compared to simply salted meat. After the meat has been salted sufficiently, you can begin drying.

To do this, you can use grates similar to those on a barbecue. Before the meat is placed on the racks, it must be blotted from excess liquid. It is better to place the grilles inside a metal cabinet equipped with a heater and an exhaust hood. Thanks to this, the meat will not undergo insemination and will dry much faster. Dry meat is good because it can be stored for a long time without losing its taste and nutritional qualities.

Once the meat is so dry that when struck it sounds like hitting cardboard, it can be stored. It is better to store dried meat, as well as fish, in tightly closed glass jars. It is better to choose a dark, dry place to store food. In this form, dried fish and meat can retain their nutritional qualities for 2.5-3 years.

Beneficial properties of salted fish and meat

The positive properties of well-salted meat and fish include their long shelf life. Such products can remain fresh for 2 - 3 months. Thanks to this, people going on expeditions can be provided with complete protein for a long time. [9] Another positive property of salted fish and meat is the fact that when preparing soups and fish soup, you do not need to add salt, since it is already in these products.

The third positive property is their wonderful taste; such products add variety to the table. Of course, if they are properly prepared and removed from excess salt before use, using the procedure of soaking for half an hour in milk or water.

Dangerous properties of salted fish and meat

As for the harmful factors of salting, they are based on the fact that salt can retain moisture in the body. As a result, people who frequently consume corned beef suffer from high blood pressure.

In addition, salted fish and meat are not recommended for people who have problems with the gastrointestinal tract, as well as with the cardiovascular system. This is due to the fact that in addition to increasing blood pressure, salt can also interfere with potassium absorption. And, as you know, potassium is one of the main elements for the stomach and heart. [29]

In addition, salted fish and meat purchased in a store can cause an exacerbation of the disease for allergy sufferers and people with unhealthy livers, due to the presence of nitrate and other preservatives in the products. And salted herring, ram and pork sometimes cause helminthic infestations.

Smoking



Smoking is a special type of smoke treatment of fish and meat products, as a result of which they acquire a unique taste and aroma. In addition, as a result of treatment with smoke smoke, products acquire bacteriostatic properties and are partially dehydrated.

Smoking can be hot, cold, and a new technology is now being used using liquid smoke.

- **Hot smoking**

This technology involves processing fish and meat with hot smoke obtained from hardwood. Due to the fact that the temperature of the smoke used ranges from 45 to 120°C, the smoking time can extend from one to several hours.

Products that have undergone this processing are distinguished by their juiciness and rich aroma. The fat, which is located in a certain zone before smoking, is evenly distributed throughout the product during smoking. Smoked meats obtained in this way are good for immediate use. This is due to the fact that meat and fish, as a result of hot smoking, are not dried enough, which can subsequently negatively affect the quality of the product.

The maximum storage time for hot smoked products is no more than 6 months in cold conditions.

- **Cold smoking**

Cold smoking, just like hot smoking, involves the use of smoke. But unlike the first, the smoke in this case is cold, no more than 20°C. This method of smoking takes longer, since the meat or fish is located away from the heat source and is fumigated exclusively with cooled smoke. Sometimes the smoking time can extend to several days. The resulting products are less fatty, drier and contain more natural preservatives.

Thanks to this, cold smoked products can be stored for a longer time without losing their taste and nutritional properties, and also without exposing the consumer's life to the threat of poisoning.

- **Liquid smoke**

Smoking technology using liquid smoke is still relatively new, but has good reasons for its dominant position. This is due to the technology of producing liquid smoke. First, the prepared firewood is burned in a stove. The resulting smoke is passed through water.

As a result, the water is saturated with smoke smoke. Then comes the stage of cleaning the solution from harmful compounds. Thus, liquid smoke sold in stores contains fewer carcinogens than smoke from a fire. The only disadvantage of liquid smoke is the fact that there is no exact composition, and

unscrupulous manufacturers may violate its manufacturing technology. So it's worth keeping an eye on the European Food Safety Authority.

As for the smoking technology itself, it is absolutely simple. It is enough to soak meat or fish, cut into portions, in water with added smoke, and then fry and the product is ready. Of course, it may differ from the one you can get at the stake. But this is due to the purification of smoke from carcinogens such as phenol, acetone, formaldehyde, as well as such a dangerous substance as methylglyoxal .

Beneficial properties of food prepared by smoking

The value of products obtained using smoking technology is at the top of gastronomic delights. Meat that has been processed with smoke becomes more appetizing, easier to digest, and thanks to the taste of smoke, it turns into a true delicacy.

Hazardous properties of food prepared by smoking

As for the negative aspects of smoking, products that have been treated with smoke are not recommended for use by people suffering from gastritis, stomach ulcers, cholecystitis, and those prone to allergic reactions.

You should also limit the consumption of smoked meats to people whose families have had a history of cancer (due to a high predisposition). Nitrosamines released during smoking have high carcinogenic activity.

Nutritionists believe that cold smoking is much preferable to hot smoking. Such dishes, in their opinion, do not have carcinogenic activity.

Drying



When research expeditions go to little-studied areas of our planet, the list of products they take with them always includes dried meat or fish.

Drying is a type of cold drying of fish or meat.

Drying technology involves gradual dehydration of products. As a result, enzymes are activated, which give food excellent taste, as well as the necessary properties for long-term storage of products.

In dried foods, unlike dried foods, fat is distributed throughout the entire thickness of the muscle mass. Dried meat is more aesthetically pleasing in appearance, its taste is more harmonious and resistant to rancidity .

General description of the method

In order to properly dry the product, you need a constant flow of fresh air and a temperature of up to + 40°C. At higher temperatures, irreversible protein changes occur, called denaturation. At the same time, the taste of the products becomes such that few people dare to try them. And if he tries, he will become an active fighter for maintaining the thermal regime!

Cooking time depends on air temperature, lack of moisture and presence of wind. To make cooking faster, meat should be hung at a height no lower than human height. This is due to the fact that at such a height the wind speed is higher than at the surface of the earth. The presence of a draft is also a good factor.

If the weather outside is windy and dry, the product may be ready after 2-3 days. More often, the preparation time reaches 2 or more weeks.

Well-dried products become resistant to the development of pathogenic microflora. This is due to the insolation properties of the sun, on which the drying process is carried out.

Dried products are eaten without further cooking, immediately after the preparation process is completed. The shelf life of such products is very long, which is convenient during a hike or expedition.

Currently, there are a huge number of pseudo-dried products on sale. Their main difference from real dried ham or fish is that the process of their preparation is not associated with the sun. As a result, incomplete fermentation occurs, and the product does not have all the advantages of natural drying.

Most often, roach, ram and Asian smelt are dried whole. As for the backs and bellies, sturgeon and salmon fish are used for their preparation.

Beneficial properties of food prepared by drying

The nutritional value of dried foods certainly deserves respect. Thanks to this technology, enzymes are activated that have a positive effect on the brain and spinal cord, improve the functioning of the intervertebral discs, and most importantly, they improve the overall functioning of the gastrointestinal tract.

People who regularly eat dried meat and fish feel more active than their peers who do not consume such foods. This is due to the fact that cured meat tends to be more completely absorbed.

The fat that permeates meat and fish, under the influence of the sun and enzymes, undergoes a transformation, thanks to which it is able to give the body more energy and vitality.

Dangerous properties of food prepared by drying

Who wouldn't benefit from jerky? These are primarily people with impaired protein (purine) metabolism.

It is also harmful to people who have high blood pressure.

Also, it is not advisable to consume dried foods for people who are prone to urolithiasis.

Fresh Freeze



“There is a life-giving force in the cold!” - this is how I would like to start an article devoted to quick freezing.

Freezing is one of the best ways to preserve vitamins. It is thanks to her that we have the opportunity to receive fresh, and most importantly high-quality fruits and vegetables all year round. Freezing fruits, vegetables, berries, mushrooms and herbs provides for long-term preservation of products in practically unchanged form.

General description of the method

In order for frozen products to meet all GOST requirements, it is necessary to take care of the quality of raw materials. This implies the importance of ensuring that future frosts are biologically safe. All spoiled and damaged parts of plants must be removed. All polluting particles are selected. Pressed berries should be frozen separately from whole ones.

Since delicate berries such as raspberries [30], blackberries [31] and mulberries tend to lose juice quickly, they need to be processed first.

In order to ensure that after defrosting the products do not turn into an incomprehensible mess, but remain attractive not only to the stomach, but also to the eyes, it is necessary that they be subjected to quick freezing. It is this method that allows you to preserve the unchanged appearance of frozen products. As a result of quick freezing, fruits, vegetables, mushrooms and herbs are subject to particularly low temperatures, reaching -25°C .

Due to such a low temperature, the liquid contained in the fruit freezes so quickly that the ice crystals formed in the cells cannot grow for long. Instead, many small crystals form. As a result of such freezing, the appearance of fruits and vegetables is preserved, as well as their high taste and nutritional value.

Currently, there are specialized lines for quick freezing. You can get acquainted with their products in large supermarkets, in the prepared foods department. It is here that there is a large selection of fruits and vegetables, ranging from green peas [32] and bell peppers [33] to strawberries [34], raspberries and black currants [35].

The requirements for frozen vegetables, fruits and mushrooms are as follows:

- Frozen foods should be well separated from each other,
- do not have ice, which indicates high humidity during freezing,
- must have a natural shape corresponding to a specific vegetable or fruit.

The volumes that industrial freezing lines are capable of freezing can range from several tens to thousands of kilograms per hour.

At home, you can use regular freezer freezers. All products, if they have been previously washed, must be dried. To do this, they need to be laid out on a clean, dry towel, somewhere in a draft. In about half an hour, they will be ready to freeze. To do this, you need to put the dried products in plastic bags with a zipper and spread them in a thin layer in the freezer. The thickness of the package is equal to the thickness of the product unit. Once the fruits or vegetables in the bags are frozen, the bags can be stacked on top of each other.

Beneficial properties of freshly frozen food

Eating frozen foods is beneficial for almost everyone. Thanks to freshly frozen fruits and vegetables, you can become healthier, stronger and more cheerful during the winter season. After all, recent research by scientists has proven a very high degree of preservation of vitamins in properly frozen foods.

It is believed that fresh vegetables and fruits in winter contain less vitamins than freshly picked and quickly frozen foods.

Dangerous properties of freshly frozen food

The restrictions on eating freshly frozen fruits and vegetables are the same as for freshly picked ones .

They are not advisable to be consumed fresh by persons with gastrointestinal problems, in particular with dysbacteriosis.

And it is strictly forbidden to be consumed by those who are allergic to one or another fresh fruit or vegetable.

Freezing fish and meat



Fish and meat... When you live in the North, it's winter outside, and the temperature reaches -40 degrees, preserving them is not particularly difficult. You just need to hang them outside the window and take them out as needed. But what to do when it's summer outside, and your address does not correspond to the place where Santa Claus lives? This is where it's worth talking about hardware freezing of meat and fish.

In order for fish and meat to retain their nutritional characteristics longer, the industry uses special freezing units. Their size is similar to a large room equipped with coolers. These refrigeration units can accommodate several cow carcasses at a time. Carcasses are hung on fixed hooks on longitudinal beams. But as mentioned above, only industrial installations have such dimensions. In everyday life, we deal with familiar refrigerators.

In order to properly freeze meat, so that it retains all its characteristics, and the food prepared from it is as tasty as if it was prepared from fresh meat, it should be prepared.

And the preparation is as follows: the washed meat is cut into portions one and a half centimeters thick. Then the cut pieces are wiped with a paper towel and placed in plastic bags with zippers. Then the prepared bags are laid out in a thin layer in the freezer.

The freezing temperature should be -18°C . At the same time, it is advisable to carry out the freezing process as quickly as possible. To do this, it is necessary that the packages do not touch each other, much less lie on top of each other. Otherwise, the circulation of cooled air will be reduced, and the time required for freezing, on the contrary, will increase.

This may negatively affect the quality of meat, which, after defrosting, will not have all the characteristics that premium meat has. At the same time, the requirements for meat apply not only to ungulate meat, but also to poultry meat, which must also be frozen for the shortest possible period of time.

- **Freezing fish**

If you really love fishing and often bring home a rich catch, then you can take care of a small supply of fish for the whole family now. After all, freezing it is not difficult at all. To do this, the fish must be cleaned, freed from entrails and washed.

Large fish are cut into small pieces. Then the cooked pieces are wiped with a paper towel. Lightly dried fish is ready for freezing. In order to ensure the safety of the beneficial vitamins and microelements present in the fish, it is necessary to place it in special plastic bags with a lock. The main thing is that they do not allow odors, moisture and air to pass through. After packaging, the date of freezing, type of fish, and sometimes the weight of the product are written on the bag.

About a day before the intended freezing, set the temperature in the freezer to 25°C . It is better to freeze fish in small batches to avoid increasing the temperature in the freezer and, accordingly, poor-quality freezing. If everything is done correctly, consider that deep freezing the fish was successful!

As for defrosting, which precedes further work with fish, it is best to thaw such fish for preparing various dishes slowly. This will preserve the juiciness and natural taste of seafood. For fried fish, this condition is mandatory. If you decide to cook fish soup or bake fish in the oven, but there is not enough time for complete defrosting, a half-thawed product will do.

Freshly frozen fish, after defrosting, can be used in the same way as fresh fish. They smoke it, salt it, pickle it, steam it, in a word, they treat it in exactly the same way as with fresh one.

Useful properties of fresh frozen fish and meat

Deep “shock” freezing increases the shelf life of products. In addition, it is believed that with this method of preservation more vitamins and other useful substances are preserved. The products remain almost as healthy as fresh ones.

Meat and fish, frozen according to all the rules of culinary art, are an excellent source of complete protein. [9] Moreover, the most beneficial thing in fish is polyunsaturated acids of the Omega class, which protect the walls of blood vessels from atherosclerosis, have a beneficial effect on the functioning of the brain and heart, and promote the conversion of carotene into vitamin A.

In addition, fish contains vitamin D, which is an excellent prevention of rickets in children, makes bones and teeth stronger, and helps the body absorb calcium. [37] Sea fish, which contains a lot of iodine and fluorine, is considered the most useful.

As for meat, it contains amino acids that are extremely necessary for the development of the body. And thanks to the presence of vitamin B, the functioning of the nervous system is normalized.

Regardless of whether the meat comes from ungulates or poultry, it is an important component of the human diet and therefore care must be taken to preserve its beneficial properties.

Dangerous properties of fresh frozen fish and meat

In addition to all the listed positive qualities of meat and fish products, it is necessary to remember about the “other side of the coin”. And the situation here is as follows.

River fish, as well as herring and ram, are potentially dangerous. When consuming such fish, there is a risk of helminth infection. To prevent this from happening, herring, for example, after defrosting, must be fried for half an hour, and boiled even longer. Fans of sushi and stroganina (a common fresh fish dish in the North) should be especially careful. They run the risk of becoming infected with helminths, which can be very difficult to control.

Another danger of infection by pathogenic microorganisms exists during thawing of fish and meat. For prevention, it is necessary to protect products that are not heat-treated before consumption from pathogenic microorganisms found in raw meat and fish. Therefore, when defrosting meat and fish products, they should be placed in a special container, which, after thawing the products, should be treated with boiling water with the addition of baking soda.

Pickling



How to give vegetable salads, meat and poultry a particularly piquant, delicate taste? Well, of course, by pickling. This method of preparing food is especially popular in Korea.

It was from them that we adopted the recipes for preparing Korean carrots, cabbage, zucchini, and beets [38]. Probably in every city in the market you can find representatives of this nationality selling pickled vegetables, mushrooms, raw tofu and seafood, as well as many other delicacies.

In our country, pickled dishes are most often used for festive feasts and in winter, and elements of pickling are used in canning and cooking kebabs.

The essence of marinating is the use of acetic or citric acid, as well as all kinds of spices and herbs for preparing various dishes.

Marinades, depending on the acetic acid content in them, are divided into 4 groups:

- Weakly acidic (0.2 - 0.6% acid);
- Moderately acidic (0.6 -0.9% acid);
- Sour (1-2%);

Spicy (especially rich marinades). Characteristic of Hungarian, Bulgarian, Georgian, Moldavian and Romanian national cuisine.

It is best to use a slightly acidic marinade, which is more familiar to our body and less harmful to health!

Marinating meat

Marinated meat is used to prepare kebabs, and sometimes it is simply stewed, served with a side dish and gravy. Marinated meat is more tender and tasty.

Basics of preparation: meat is poured with wine or vinegar, combined with spices (different types of peppers, bay leaves, onions, chopped into rings, garlic). The mixture is left for 8 -12 hours on the bottom shelf of the refrigerator. And after that it is prepared according to the chosen recipe.

Marinating poultry

Poultry meat will acquire a special taste and aroma thanks to marinating. To do this, pre-prepared poultry is placed in a marinade consisting of vinegar or wine, as well as spices. In addition, mayonnaise is added to the marinade for taste. After 8-10 hours of marinating, the poultry is ready to cook. Chicken stew prepared using this method tastes like grilled chicken.

Marinating fish

This recipe is used quite rarely. Mainly when they want to cook fish kebabs or bake fish in the oven. To marinate fish, you can use the previous recipe. The main thing is to choose the right spices for it.

Pickling vegetables for salads

It only takes 30 minutes to prepare Korean express salads, such as carrot salad. To do this, vegetables are grated or finely chopped with a knife. Then add a little vinegar, preferably apple vinegar, and your favorite spices. Cover the salad with a lid and leave for about 25 minutes. After this, you can season it with oil, decorate with herbs and serve.

If hard vegetables (for example, beans [38]) or lightly chopped ones are pickled, the method of fermentation or salting is often used first, and only after that they proceed to pickling, which gives the vegetables a special taste.

Pickling vegetables and fruits for preservation

Vegetables for preservation are sorted, cleaned, removing all kinds of stains and defects. Cut into pieces or whole fruits are placed in a jar, at the bottom of which spices are first placed. For marinades, cloves [39], various types of peppers, cinnamon [40], cumin, garlic, dill, horseradish, parsley and celery, as well as marjoram and savory are usually used.

A jar filled up to the shoulders is ready to be filled with marinade. The amount of marinade required is calculated according to the principle: one half-liter jar requires about 200 grams of marinade, that is, the marinade filling takes up about 40 percent of the jar's volume.

It is better to cook the marinade in an enamel pan. To do this, add salt and sugar to the water, put it on the fire, bring to a boil and boil for 10 minutes. Cool to 80-85 degrees, add vinegar and immediately fill the jars with marinade. Lids must be used only enameled ones; iron ones are destroyed by acetic acid.

To acquire excellent taste, such canned food needs to "ripen" after seaming. During storage of pickled preserves, the fruits are soaked in aromatic substances and spices. For ripening, canned food requires from 40 to 50 days, depending on the type of vegetables and fruits, as well as the degree of their grinding .

Storing marinades

Marinades are usually stored in basements and pantries. Storage in room conditions is also acceptable. At temperatures below 0 degrees there is a risk of jars freezing .

Sudden changes in temperature are unacceptable, as this deteriorates the quality of canned food. At high storage temperatures (30 - 40 degrees), the quality of marinades deteriorates, useful substances are lost in the fruits, and their taste deteriorates. Vegetables become soft and tasteless. High storage temperatures create conditions for the accumulation of toxins hazardous to health.

Marinades are stored for one year in a dark room. In the light, vitamins are destroyed faster and the color of the product deteriorates.

Useful properties of pickled food

Marinated dishes provide great variety to the table, are tasty and are especially useful for people with low acidity of gastric juice. In the winter season, pickled vegetables and fruits are a good addition to the main diet.

Pickled vegetables are an excellent side dish for meat, and are also used to prepare winter salads and vinaigrettes.

Dangerous properties of pickled food

Marinated dishes are not included in the list of dietary foods. Such products are contraindicated for persons with high acidity of gastric juice; suffering from stomach ulcers, cholecystitis and other gastrointestinal problems.

Persons with vascular diseases should not eat dishes with marinades frequently to prevent relapse of diseases.

People suffering from hypertension need to limit the use of marinades, due to the increased concentration of salt in them.

Canning



Since ancient times, it has been very important for a person to be able not only to harvest, but also to preserve it. After all, this was a guarantee of the preservation of life itself. This is how man learned to dry and dry, smoke and freeze. And later – salt and ferment. How to keep food fresh for many years has become known only recently.

The whole world owes the invention of the method of preservation to the French chef Francois Appert , who skillfully used the knowledge of two scientists about the emergence of microbes. Having tightly sealed a jar of food, 8 months later, Francois discovered the appetizing appearance of his canned food, for which he received a gold medal from the French industry of the 19th century, and was also awarded the honorary title “Benefactor of Humanity.” Since then, canning has taken pride of place among other methods of preserving food for a long time.

Canning vegetables

To preserve vegetables (cucumbers, tomatoes, zucchini), you need to prepare glass jars of the required size. For this purpose, liter and three-liter jars are most often used. Two pots of water are placed on the fire, a special ring with a hole for the neck of the jar is placed on top of one of them, the other is intended for preparing brine.

After the water in the first pan boils, you can begin sterilization. The canning jar is inserted into the hole of the ring with its neck down. Thus, the jar is sterilized for about ten minutes, then the next one is placed, and so on.

Vegetables intended for preservation and spices (cherry leaf, black and allspice, horseradish, bay leaf, dill, tarragon or amaranth - for strength) are placed in prepared jars. Add salt and a little vinegar to the second pan. After boiling, pour the brine over the vegetables in the jars. Leave for 10 minutes. At this time, put rubber bands on the lids of the jars and place them in a small pan of water to boil.

Then the brine from the jars is poured back into the pan using special lids with holes. The brine is brought to a boil and the vegetables in the jars are poured again. The jars are rolled up and placed upside down. After cooling, the jars can be turned over.

Fruit compotes

The process is similar to canning vegetables. The only difference is that after sterilizing the container and placing the fruit in it, the contents of the cans are filled with boiling water with the addition of sugar and a small amount of citric acid to prevent spoilage of the canned food. All other stages of the process of canning fruits are identical to preparing vegetables.

Jam

There are many ways to make jam. Usually it is cooked at low boil, adding a certain amount of sugar according to the recipe. Tender berries are boiled once, and harder berries and fruits are boiled 2 times with an interval of 1-3 hours. After the jam has been boiled for 20 - 30 minutes, it is worth checking for readiness.

Signs that the jam is ready:

- A drop of jam left on a cold saucer should not spread. The syrup should flow from the spoon in a thick stream.
- The boiling point of the finished jam reaches 106.5 degrees Celsius.
- When shaking the container with jam, the foam does not spread out to the edges, but collects towards the center of the basin.
- In jam, the berries do not float to the surface, but are distributed evenly in the syrup.

Preserving jam:

Jam is poured into pre-prepared jars and the lids are rolled up. Turn the jars upside down until they cool.

Canned fish

The fish is cut into small pieces, fried, and placed in pre-sterilized jars. Pour in tomato juice or vegetable oil, add salt and spices, cover with metal lids and place in a pressure cooker with a small amount of water at the bottom (about 4-5 centimeters). After 30 - 60 minutes, depending on the type of fish and the strength of its bones, turn off the pressure cooker. At the same time, the bones in the fish should be as soft as in industrial canned food. Canned food is rolled up and turned upside down.

Canned meat

Meat is prepared in a pressure cooker according to the stew recipe. Then the meat is placed in pre-steamed, sterilized jars. Then they follow the method described above for canned fish. Cooking time in a pressure cooker is from 1.5 to 2 hours, depending on the hardness of the meat and bones.

Useful properties of canned food

Properly prepared canned vegetables and fruits are very tasty and aromatic. Canned fish retains all the beneficial fatty acids, which means it is not only tasty, but also nutritious. And stew has a high nutritional value and is easily absorbed by the body.

As for jam, for many sweet lovers it is a great delicacy that successfully replaces sweets and chocolate. In addition, it is safe to say that homemade jam is a healthier product than most sweets from the supermarket.

In addition, canned foods are very helpful when you are short of time, they are indispensable on hikes, help out collective farmers in years of poor harvest, and are an excellent help for any housewife, allowing you to diversify the diet of the whole family. Canned food is also an excellent contribution to the family budget.

Dangerous properties of canned food

Firstly, after canning, a minimum amount of vitamins remains in the products.

Secondly, with poor-quality cleaning of vegetables and fruits from soil, as well as improper canning and storage of canned meat, there is a risk of contamination of products with botulism spores, which develop in canned food for about three to four months. People infected with botulism are immediately hospitalized.

Thirdly, canned food contains large amounts of salt and sugar. Which in the first case, if abused, can lead to hypertension, and in the second case - to a lack of calcium in the body, with all the ensuing consequences; as well as problems with the pancreas and the accumulation of excess weight.

Air fryer



“An improved analogue of the Russian oven... environmentally friendly preparation of food...” - this is what the air fryer advertisement says. Invented in the 80s of the last century, the air fryer has taken its rightful place on the shelves of household appliances stores. And although it cannot be said that this is an essential appliance, the natural method of cooking, as well as its versatility, have already found their fans not only among housewives, but also among other categories of our citizens.

Air fryer device

The convection oven consists of two parts – upper and lower. The upper part is equipped with a heating element and a fan, as well as a control panel, for high-quality and environmentally friendly preparation of various dishes. The lower part is a glass bowl designed for preparing food. Glass containers come in various sizes. In stores you can find bowls from 7 to 17 liters! And there are also completely unique specimens, with the ability to adjust the volume of the bowl.

The volume increases thanks to special expansion rings. Thus, you can increase the height by increasing the volume by 4-10 liters. In addition to specialized glassware, you can use any glassware available in the house. The exception is containers made of wood or plastic.

As for energy consumption, an air fryer will require less electricity to operate than an ordinary kettle or iron. In addition, it can be installed on any flat, and most importantly dry, surface. If only there was enough wire.

As for additions to the device, their availability depends on the price category of the device. Cheap devices usually have only three grilles. Expensive devices, in addition to grates, have skewers, roasters, steamers and other new culinary equipment.

Air fryer functionality

Using an air fryer, you can cook in almost any way: fry without oil, grill, boil, stew, bake, smoke, dry, prepare hot sandwiches and toast, delight loved ones with steamed cutlets, cook barbecue, and also make baked goods. This miracle device can also heat up food at a certain time, sterilize canned food, cook jam directly in jars, make yoghurts [41] and raise dough. True, to prepare yoghurt, you will have to purchase models with an electronic control system.

The advantages of an air fryer include the following:

- The absence of a strong odor during cooking, as well as the ability to prevent food from burning.
- Simultaneous preparation of several dishes.
- Automatic cleaning of the device.
- Ease of transportation.
- Maximum preservation of vitamins.
- No harmful radiation.
- Multifunctionality and volume. One device can serve a family of 4-5 people.

Cooking method

Cooking is based on the principle of convection, that is, the circulation of hot air around the product with its gradual heating. To prepare dishes, you need to place the pre-prepared products in a special bowl, set certain cooking parameters and turn on the device.

The well-known grilled chicken, weighing 1 kg, is prepared here in 40 minutes. As for fish, its cooking temperature is 180 degrees, and the time ranges from 18 minutes to half an hour.

But before you turn on the device, you need to take care of one more requirement. It is necessary that all products cooked in the air fryer move away from the wall at a distance of at least one and a half centimeters. This is due to the fact that hot air convection is only possible if there is free access to the products.

The device can also be used as a smoking unit. You just need to pour alder sawdust on the bottom of the dish, or pour in liquid smoke. In this case, the products are placed on the grid included in the kit.

Useful properties of food cooked in an air fryer

Thanks to the hot and clean air with which the food is cooked, the air fryer is included in the list of the healthiest cooking methods.

The air fryer cooks without fat. And this is a big bonus for those who care about their figure, health and attractiveness.

Thanks to the environmental friendliness of the device, people prone to food allergies can enjoy various dishes prepared by this “miracle stove” with complete peace of mind.

It is thanks to all of the above useful properties that the air fryer can take its rightful place in your kitchen.

Dangerous properties of food cooked in an air fryer

As for the harmful properties of the air fryer, we could not find any. The only thing you should remember when preparing certain dishes is that any product may have its own personal negative characteristics that have nothing to do with the cooking method. Research by scientists confirms that the design of the air fryer does not contain technologies that are hazardous to health.

Dishes in the microwave



Since ancient times, people have cooked food over fire. At first it was just a fire, then all kinds of stoves made of stone, clay and metal, which were heated with coal and wood. Time passed, and gas ovens appeared, with the help of which the cooking process was greatly simplified.

But the rhythm of life in the modern world is also accelerating, and at the same time new devices are being developed to facilitate the cooking process and improve the taste of the dishes being prepared. A microwave oven has become such a device, which defrosts and quickly warms up food, and is also capable of preparing healthy and tasty dishes in a short time.

This is interesting!

The “microwave” was invented by the American scientist and researcher Spencer by accident. Standing in the laboratory near the magnetron, the scientist noticed that his candies in his pocket began to melt. Thus, in 1946, a patent was received for the invention of a microwave oven, and in 1967, mass production of microwave ovens for home use began.

General description of the method

In microwave ovens you can successfully cook meat, fish, cereals, soups, stews and desserts. The cooking process occurs using ultra-high-frequency magnetic waves, which quickly heat the food. This speeds up the cooking process several times!

Using this method, you can boil beets in 12-15 minutes, beef can actually be cooked in 10-12 minutes, our quick oven will cook an open apple pie in 9-12 minutes, and bake potatoes here in 7-9 minutes, it takes about 7-9 minutes to prepare pancakes the stove will spend about 6 minutes!

Vegetables are especially suitable for cooking in the microwave, due to the reduction of their cooking time many times over, and the preservation of all nutrients, taste and aroma in the finished dish.

Even school-age children can use a microwave to quickly heat up food and prepare hot sandwiches, young mothers to heat up baby food, as well as very busy people for whom every minute counts. A microwave oven is also suitable for pensioners who do not burden themselves with culinary chores.

A useful function of a microwave oven is the presence of a timer. The hostess can be calm, because any dish will thus be ready exactly on time.

Utensils and accessories for microwave ovens

Special dishes are available for sale for microwave ovens. It is the most convenient to use. Round dishes are much better than rectangular ones, since the latter causes food to burn in the corners.

For preparing dishes, special foil, lids, waxed paper for wrapping and special films are used, which give the finished dishes a special juiciness and also protect them from drying out and overheating during cooking.

Precautionary measures

Metal and wooden utensils should not be used in microwave ovens. Plastic is also not safe for everyone.

You cannot boil condensed milk in a jar and heat baby food with lids, boil eggs [42] in the shell and cook large bones with a small amount of meat on them, as this can damage the oven.

Myths and truths about microwave ovens

Today in our country there is a very ambiguous attitude of people towards microwave ovens. Some believe that these ovens are harmful due to the presence of electromagnetic radiation in them. Scientists claim that a high-quality oven does not allow radiation to pass through, and when the door is opened, the entire cooking process associated with radiation immediately stops. It is easy to check the quality of the product. All you have to do is place your mobile phone in the unplugged oven and call this number. If the subscriber is out of the access zone, then everything is in order - the oven does not transmit electromagnetic waves!

Useful properties of food cooked in the microwave

Products in the microwave are cooked in their own juice without adding oil, which meets all the rules of a healthy diet. Spices also need to be added in minimal quantities, thanks to a special cooking technique that perfectly preserves the natural aroma and taste and color of the finished dish. I'm also pleased with the cooking time of the dishes, which do not have time to lose their beneficial substances and lose their shape in such a short cooking period.

Dangerous properties of microwaved food

It is believed that it is not advisable to cook meat with tendons and connective tissue in microwave ovens. Because the substance formed during the cooking process is very similar to glue, which has a harmful effect on the kidneys.

Some proponents of a natural lifestyle believe that food prepared using electromagnetic radiation is harmful to the body. But these claims have not yet been scientifically substantiated. It is known that such furnaces do not emit radiation.

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Abstract. So, we've looked at the 18 main cooking methods, as well as the healthful and dangerous properties of each method, their history, and interesting facts about each. Identified the most beneficial methods, and those that are best to exclude from your daily diet.