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28 March 1986, Ref. No 4086-86

## **METHODICAL INSTRUCTIONS FOR THE PERFORMANCE OF THE STATE SANITARY SUPERVISION ON MEAT PROCESSING ESTABLISHMENTS**

This Methodical instructions deal with the most important hygiene, sanitary and epidemiological issues of the performance of the state sanitary supervision on meat processing establishments. At the same time, it is necessary to comply with the requirements of "Sanitary rules for meat industry establishments" No 3238-85 established on 27 March 1985 by the Ministry of Health of the USSR and on 5 August 1985 by the Ministry of Meat and Dairy Industry of the USSR and approved on 27 March 1985 by the Central Veterinary Administration of the Ministry of Agriculture of the USSR.

### **GENERAL PROVISIONS**

At the performance of the state sanitary supervision on the construction and reconstruction of establishments, it is necessary to comply with the current "Sanitary and veterinary requirements for the design of meat industry establishments", standard No SN 245-71 "Sanitary standards for the design of industrial establishments", standard No II-89-80 "General layout of industrial establishments", etc.

A building plot should be selected with respect to the configuration of ground, groundwater level, access roads, water supply, wastewater discharge, wind direction, etc. The plot must be situated in the windward direction to industrial establishments producing harmful pollutants and in the leeward direction to residential, medical and cultural buildings. A sanitary-protection zone must comply with standard No SN 245-71.

The entrance to the establishment, as well at the exit therefrom, must be equipped with a disinfection bath or matt containing a disinfection solution and serving for the disinfection of wheels of vehicles. Service roads within the establishment must have a dust free surface.

The territory of the establishment is divided into three basic zones:

1. auxiliary zone with auxiliary buildings/premises serving for the storage of fuels, building materials and other auxiliary materials;
2. lairage zone – a place for housing animals before slaughtering, including a quarantine section (shed), an isolation stable and an emergency slaughter;
3. production zone in which production buildings are situated.

A vertical layout of the territory should enable the drainage of both atmospheric water and wastewater from cleaning areas. Wastewater from the places for housing animals before slaughtering (including quarantine, isolation and emergency slaughter), as well as from fuel handling station, must not drain to the remaining territory of the establishment.

The layout of buildings, premises and constructions must preclude crossing of transportation ways of:

- a) raw materials and finished products;
- b) healthy animals, sick animals and animals suspected of being contaminated or being infected;
- c) food products with animals, litter and other production waste.

The receipt and dispatch of food products must be separated from other parts of the establishment, and:

- the distance from the quarantine, isolation stable and emergency slaughter must be at least 100 m;
- the distance from closed premises for housing animals before slaughtering and the storage of solid fuels must be at least 25 m.

Sites having an asphalt surface and intended for the collection of waste are established at the distance of at least 25 m from production and auxiliary premises; the area thereof must at least three times exceed the capacity of collection receptacles; metal containers or barrels fitted with lids are located there. The receptacles are emptied whenever they are full from two thirds and then cleaned and disinfected using 10% solution of chlorinated lime or lime milk.

The establishments are supplied with water in particular from existing water supply networks, as well as from local resources (artesian wells). In exceptional cases, it is possible (for remote slaughtering sites and upon accord by the territorially competent public health station) to use water from open water sources. Well water may be used only when such wells and such water comply with the requirements of "Sanitary rules for the construction of wells and properties of wells and springs used for the supply of service water and potable water".

Water used for technological purposes at the manufacture of food products, as well as water used in establishments and households, must comply with the requirements laid down in standard No GOST 2874-82 "Potable water. Hygiene requirements and quality control". The establishments are obliged to subject water to chemical and microbiological analyses, at intervals established by the territorially competent public health stations, at least quarterly in the case of tap water or monthly, in the case of water from a local source. When water from open water sources and wells is used, microbiological analyses should be performed each 10 days.

Water supply main pipe (inlet) must be situated in a special lockable place and must be fitted with water pressure gauge, sampling taps, inlets (with traps) and backwater valves enabling one-way water flow only.

Service water may be used for compressor devices, watering of surfaces, and for cleaning vehicles. Potable water piping and service water piping must be separated and have coating in different colour; the places of water intake must bear special signs "Potable Water", "Service Water".

At least two reservoirs for the storage of service water, potable water and water used for fire-fighting must be available; water contained in such reservoirs must be changed within 48 hours at most. Compulsory chlorination of water in the reservoirs, as well as checks on residual chlorine, must comply with "Instructions for the checks on the decontamination of service water and potable water, and the disinfection of water supply networks for central and local water supply using chlorine" established by the Ministry of Health of the USSR.

At accidents, after repairs and upon order by the public health station, the disinfection of reservoirs and water supply networks is performed, followed by checks on the quality of treatment, in accordance with the above mentioned instructions.

One inlet tap (and at least one per one premise) and one drain (of the diameter of 10 cm) for the drainage of liquids must be established in manufacturing premises per 150 m<sup>2</sup> of floor space.

Establishments must have available sewerage networks for potable water, service water, production water and atmospheric water which must be connected to public sewerage network or have available their own wastewater treatment plant. The discharge of wastewater must comply with the requirements of “Instructions for the protection of surface water against contamination with wastewater” and be approved by the local public health station.

Pipelines serving for the discharge of used water from equipment and machinery are connected to the sewerage network and are fitted with traps or flow splitters.

Wastewater from quarantine, isolation stable, emergency slaughter, place for hygiene cleansing of machinery and cleaning of pertaining area thereof are decontaminated prior to the discharge to sewerage network.

Establishments must have available the layouts (plans) of water supply and sewerage networks and submit them upon request to control authorities.

Premises with a permanent presence of persons must have natural lighting; in premises where staff remains less than 50 % of working hours the natural lighting may be insufficient or they may be without natural lighting.

Fluorescent lights must be fitted with a protective grating or a special socket preventing falling of fluorescent lamps; bulb lights must be fitted with a protective glass cover.

When establishing mechanical forced ventilation in premises with open technological process, cleaning of inlet air from dust must be taken into account; in rooms where dust and heat arise, input-extract ventilation is established. Local air exhausts are established when necessary.

Heating system must ensure an adequate microclimate in premises; heat sources must be easy to clean, maintain and repair.

For the purpose of the protection of staff against harmful working conditions, measures reducing operational noise to the level specified in the relevant standards must be taken into account.

The sanitation of premises, washing and preventive disinfection of technological equipment, devices, wrapping and packaging materials and containers must be performed in accordance with “Instructions for washing and preventive disinfection in meat and poultry meat establishments” No 123-5/990-11 laid down on 15 January 1985 by the Ministry of Meat and Dairy Industry of the USSR and approved on 7 December 1984 by the Ministry of Health of the USSR and on 25 December 1984 by the Central Veterinary Administration of the Ministry of Agriculture of the USSR.

Cleaning, washing and disinfection means must be available in an adequate volume. They are stored in stores, cases and boxes designated for the purpose. Cleaning means of hygiene loops/paths must be stored separately and bear a specific identification.

A sanitary day must be performed in meat establishments each month.

## **REQUIREMENTS FOR TECHNOLOGICAL PROCESSES**

## **Receipt, slaughter and basic processing of animals**

In accordance with “Rules for veterinary inspection of slaughter animals, meat and meat products” established on 27 December 1983 by the Central Veterinary Administration of the Ministry of Agriculture of the USSR and approved by the Central Sanitary Administration of the Ministry of Health of the USSR, all animals entering establishments are, prior to their receipt and entering the lairage area, subject to the veterinary *ante-mortem* inspection. Only healthy animals may be slaughtered for meat. Slaughtering of sick animals, animals suspected of being contaminated or being infected, or animals in which dead threatens is authorised only in cases specified by the relevant instructions and referred to in the mentioned Rules. Each batch of slaughter animals must be accompanied by a veterinary certificate (or attestation) drawn up on a prescribed form and compulsorily stating the data on health status of the animals in question, as well as of their place of origin with respect to contagious animal diseases.

Establishments are obliged to inform the relevant veterinary supervision authorities, as well as public health protection authorities, of all detected cases and/or suspicions on the contamination or infection with anthrax, glanders, tuberculosis, rabies, Q-fever, chlamydiosis, melioidosis (pseudomalleus), tularaemia, camel plague, listeriosis, salmonellosis, cysticercosis and trichinellosis.

A quarantine section, isolation stable and an emergency slaughter with a separate entry are established at lairage area, at a designated place which is enclosed with a firm fence and planted green belt. The quarantine is intended for housing animals which are suspected of being contaminated or being infected, the isolation stable is intended for sick animals and the emergency slaughter is intended for slaughtering of sick or suspect animals.

A separate room intended for the autopsy of carcasses, as well as special technical means enabling their take away, must be available at the isolation stable.

Vehicles in which the animals are delivered to the establishment are, following unloading of animals and removal of litter, compulsorily cleaned and disinfected at the place designated for the purpose or at a place located at the exit from the lairage area.

Establishments with production capacity up to 20 tons of meat per shift are authorised to establish a sanitary room instead of an emergency slaughter which can be placed within the building of meat and fat section, separately from other premises.

When an emergency slaughter (room) is not available, it is authorised to slaughter animals directly in slaughtering hall, either on separate days or at the end of a working shift after the slaughter of healthy animals and removal of all carcasses and other products of slaughtering of healthy animals. After the completion of all relevant activities, the premises, equipment, tools, wrapping or packaging materials and means or transport must be cleaned and disinfected.

Two separate rooms serving for the decontamination of meat and meat products must be established at emergency slaughter; one of them is intended for the preparation and loading of materials to the steriliser, the second one for unloading of sterilised products. A cold store must be established, serving for chilling and temporary storage of meat pending the results of laboratory examination are available. The dispatch of food and technical products must be performed using separate exits.

Meat and meat products intended for the decontamination are processed in accordance with Section 11 of “Rules for veterinary inspection of slaughter animals, meat and meat products”

At slaughtering of sick animals and animals suspected of being contaminated or being infected with zoonoses, the relevant staff is obliged to observe specified rules of personal prevention and to take measures which are in accordance with current orders and instructions of public health service and veterinary supervision authorities (“Rules for the protection of the staff of meat industry establishments against the infection with brucellosis” – established on 20 August 1984 by the Ministry of Health of the USSR).

Overhead conveyor lines at slaughtering hall must preclude the contact of carcasses with floor, walls and technological equipment.

Meat and other slaughter products subject to compulsory veterinary inspection *post-mortem* performed by a veterinarian. Workplaces intended for veterinarians must be adequately illuminated, be equipped with sterilisers (for the decontamination of knives, hooks and other tools and utensils), wash basins with hot and cold water, soap, means for the disinfection of hands and towels.

Non-food waste is collected using special bins/containers designated for the purpose which are identified with colour and label (sign).

Special chutes (conveyors) and containers fitted with lids and identified with colour (black stripes on white background) are used for the collection of confiscates (carcasses and organs rejected at veterinary inspection).

The place of the collection, storage (pending the results of veterinary inspection are available) and basic processing of food blood must be separated with a partition of 2.8 m of height and be equipped with an apparatus for the sterilisation of tools and utensils.

Emptying of stomachs (wet way), as well as the removal/trimming of remaining muscle tissue and fat, is performed at places designated for the purpose, at a distance of at least 3 m from places where carcasses are situated; the designated places must be separated with a partition of at least 2.8 m of height. Emptying of stomachs (dry way) is performed in a separate room.

All meat leaving the premises must be identified.

Meat released for food purposes without any restrictions is identified using a stamp of violet colour bearing the name of the republic, No of the establishment and words “veterinary inspection”. Meat released following decontamination is identified using a stamp stating the type of the decontamination used (“for heat treatment”, “for the manufacture of heat treated meat products”, etc.).

A trichinoscopic laboratory is established for the examination of slaughter pig carcasses for trichinellosis, situated near the place of taking samples.

A chamber with the capacity of at least 5 tons, serving for freezing of meat released upon veterinary supervision for the use with restrictions, must be established within cold store; the chamber may be, following disinfection, used for the storage of consigned meat which has been thawed during the journey. Such meat may be stored in the same cold store at a place designated for the purpose and separated with a sieve partition (netting). Meat affected with cysticercosis may be frozen in the same cold store but must be stored at a separate place within the cold store which is designated for the purpose and separated with a sieve partition (netting).

The decontamination of meat affected with cysticercosis using low temperatures is performed under the following regimes: pork is frozen by lowering of core temperature of meat tissue to -10 °C and then stored at the temperature of -12 °C for 10 days or, it is frozen by lowering of core temperature of meat tissue to -12 °C and then stored at the temperature of -13 °C for

4 days. The temperature is measured in hip joints at the depth of 7 cm. Beef is frozen by lowering of core temperature of meat tissue to -12 °C without subsequent storage or, it is frozen by lowering of core temperature of meat tissue to -6 °C and then stored at the temperature of -9 °C for at least 24 hours.

Meat decontaminated by freezing is processed into meat products or canned meat.

## **Processing of slaughter products**

**Processing of by-products.** Processing of by-products (except for by-products with hairs or bristles) may be performed in slaughtering premises. When a separate room is designated for processing of by-products, by-products with hairs or bristles may be processed therein. The concentration of carbon monoxide in the air of workplaces where processing of by-products with hairs or bristles and pig carcasses (scalding, dehairing, debristling) is performed must not exceed 20 mg/m<sup>3</sup>. The temperature of outer surfaces of machinery and partitions/walls must not exceed 45 °C. When such temperature cannot be achieved, it is necessary to establish at workplaces exposed to the effect of radiant heat with the intensity of 600 kcal/m<sup>2</sup> and more an air cooling and local forced ventilation.

A separate place is designated for each type of by-products (meat, bones, soft tissues, mucous tissues, hairs). The supply of cold and hot water (with mixing taps), fluency, the most achievable mechanisation and automation of technological processes, strict observance of working hours and collection of waste to colour identified containers are necessary.

**Processing of intestines/natural casings.** Processing and preservation of animal intestines, stomachs and oesophaguses by salting or drying is performed at an intestine/casing plant/workshop. Intestines are brought from slaughtering hall to the plant using special chutes or transporters/conveyors in a way preventing their impairment. Splitting of the intestines is performed on special firm tables or lines. Workplaces must be equipped with cold and hot water, as well as with the supply of gas serving for the inflation of intestines. Intestine contents are discharged to the sewerage network fitted with traps and flow splitters. The workshop must be polluted neither with intestine contents nor with water used for washing intestines.

**Manufacture of food fats of animal origin.** Crushing and splitting of bones intended for the manufacture of fats, as well as crushing of dry bones, is performed in separate premises. All other methods of obtaining of food fats from fat tissues and bones may be performed in one room. The most hygienic method of obtaining of fats is the manufacture thereof at closed continuous lines equipped with grease traps. The premises are cleaned and washed daily using basic solutions, all fat pipelines are sterilised with vapour. Within the prevention of injuries, stairs and service places must be equipped with roughened/riffled non-slip surface, rails and upturned edges.

**Processing of blood.** Albumins for food and technical purposes, protein paste, dried protein mixture, etc. are manufactured from blood; blood is used for pharmaceutical purposes as well. Blood for food purposes is delivered for processing under conditions preventing its contamination. Special manufacturing rooms are designated for the purpose; wrappings and packagings used for such products are washed and sterilised in a separate room. The production and storage of food albumin and other food products are performed separately from the production and storage of technical albumin; inlet air for drying of food albumin must be cleaned beforehand. The ventilation of rooms/chambers for drying of food albumin and technical albumin must be separated. Food albumin is dispatched from the establishment either directly from the dispatch of food products or from an operational store. Protein paste

or dried protein mixture are manufactured either in a separate room situated in the building of basic processing or in a separate building. Mixing/blending of dried products (dried bleached blood and powdered milk) is performed in a separate room. Such products are dispatched from the establishment *via* the dispatch of food products.

**Manufacture of dried feeds of animal origin and fats for feed or technical purposes.** The manufacture of these products is performed either in the building of basic processing, provided that it is completely separated from the manufacture of food, or in a separate building. Technical raw materials and veterinary confiscates coming from the establishment in question, as well as raw materials and bone meals from other establishments, are used for the manufacture of feed and technical products. A special separate room, separated from other rooms and having own hygiene background (i.e. hygiene loop/path), is designated for the collection and preparation of veterinary confiscates and waste which are not intended for human consumption. Facilities for hygiene handling of wrappings and packagings, equipment and transport means must be available; they may return to other rooms only following washing and disinfection. Feed and technical products are dispatched from the establishment either directly from the dispatch or from a store having an exit to the platform serving for the dispatch of technical products. When such manufacture is performed in a separately situated building, a room serving for the preparation of disinfection and washing solutions from which the solutions are delivered to the places where the disinfection is performed must be available there.

**Processing of meat.** Technological processes used must ensure that crossing of the ways of raw materials and half-finished products with the ways of finished meat products is precluded.

The following activities are performed in individual departments/plants:

- trimming of carcasses (a chute/trough for the collection of trimmings and discharge of wastewater is established under overhead conveyor lines);
- manufacturing of products from by-products and blood (white and black pudding, liver sausages, etc.) at an amount of 0.3 tons and more per shift. When the production volume is lower than 0.3 tons per shift, such manufacturing may be performed in the rooms and using the equipment used for the manufacture of meat products from meat – at separate times and with subsequent cleaning and disinfection of the premises and equipment used;
- thawing and washing of by-products intended for the manufacture of white and black pudding (thawing may be performed in a chamber for thawing of meat, washing may be performed in a room for trimming of carcasses);
- preparation of animal casings (in plants with the production capacity of 3 tons of meat products per shift, such preparation may be performed in the department for the preparation of meat mixture);
- receipt, storage and sifting of flour (the delivery of flour in bags to production rooms and then back to flour storage rooms is not authorised);
- storage of grains;
- cleaning of frames (a place within the room for washing of tools and utensils may be designated for the purpose);
- preparation and weighting of the doses of spices, soya protein, powdered milk and other ingredients;
- temporary storage of salt, spices, starch, soya protein, powdered milk and other ingredients (the storage may be performed in production rooms – in cases, boxes, etc.).

The manufacture of meat products and canned meat from meat authorised by veterinary supervision to be released with restrictions must be performed in separate rooms or during separate shifts, which is followed by a thorough cleaning and disinfection of premises, machinery, other equipment and wrappings/packaging.

The delivery of fuels and clean disposable packagings and containers for the transport of half-finished products and meat products through production rooms is not allowed.

Rooms or facilities for washing, sterilisation and drying of disposable packagings and containers, washing and sterilisation of tools and utensils, as well as wash basins with hot and cold water fitted with mixing taps and means for disinfecting and drying hands, cases or boxes for the storage of salt, spices and other auxiliary materials, cases or boxes for the storage of washing, cleaning and disinfection means must be available at meat processing departments/plants. A room for the central preparation of washing and disinfection solutions which are delivered to all production rooms *via* pipelines is also necessary.

**Manufacture of meat products.** Meat intended for the manufacture of meat products is delivered to production rooms from premises in which veterinary inspection is performed, upon approval by the relevant veterinarian.

Cutting of animal carcasses (to obtain halves, quarters or other cuts according to the cutting scheme), boning of meat (separation of meat, fat and connective tissues of a carcass from bone tissue), and trimming of meat (removal of fat, tendons, cartilages, fascias, main blood and lymph vessels, blood clots and bonelets) are performed in the plant (or department) for the preparation of raw materials. The meat is, prior to boning, subjected to a dry cleansing during which marks are cut off, or a wet cleansing, if appropriate. Staff performing boning operations must be equipped with protective gloves and guards protecting arms or fingers and belly. Passing or shifting of meat pieces by knives, carrying knives in boots, under belts or in hands, sticking knives into tables or leaving knives on tables is prohibited. A bath with the supply of hot and cold water and disinfection means intended for washing of minor tools, utensils and aprons must be available. The air temperature in the preparation department/plant must not exceed 12 °C and the relative humidity 70 %.

Technological process of the production of meat products (sausages, salami) consists of the following stages: preliminary grinding and salting of raw material, preparation of meat mixture, stuffing of casings with meat mixture, hanging of rods (at the manufacture of semi-dry, soft and hard salami), heat treatment and cooling.

Salting of meat is the treatment of meat with kitchen salt, salt brine or salting mixture in order to achieve elasticity, binding capacity, cohesion, necessary organoleptic properties and durability of finished products. Prior to salting, the meat is ground/minced by grinding or cut into pieces.

When preparing soft sausages/salami, meat is salted using concentrated salt brine (water solution of kitchen salt, sugar, nitrites and other ingredients) or dry salt; nitrite salting mixture is used at the manufacture of hard salami. Mixing of meat with the solution or salt is performed in mixing machines of various designs for 3-4 minutes. Salted ground meat intended for the manufacture of heat treated meat products is then left in mixing or maturing vessels or other containers at the temperature of 2-4 °C for a specified time period.

Salting of pork consists in the injection of salt brine, followed by coating with a salting mixture and maturing of the meat for several days.



Sodium nitrite (sodium nitrite within the meaning of the state standard No GOST 4197-74) in the form of a solution of the concentration lower than 2.5 % at the amounts specified in technical documentation and technological instructions is used for salting of meat or preparation of meat mixture. Sodium nitrite is added in order to achieve the typical ping-red colouring of products. According to the current "Instructions for the use and storage of sodium nitrite", the director of the establishment shall draw up the list of persons authorised for handling of sodium nitrite. Dry nitrite must not be used. Dry nitrite is stored separately from other materials, in a locked and sealed room. Nitrite solution is prepared in the establishment's laboratory and stored in operational premises in a special packaging bearing the sign "sodium nitrite"; operation manager (foreman) is responsible for its proper use and storage, the worker performing salting or preparation of meat mixture is responsible for its dosage. The establishment's laboratory keeps "Records on the receipt and consumption of sodium nitrite"; the relevant department/plant keeps "Records on the use of sodium nitrite". The content of sodium nitrite in finished products as prescribed in the relevant standards is of 3-5 mg per 100g of product (i.e. 0.003-0.005 %).

After the completion of salting, meat mixture is prepared using meat cutter apparatus (i.e. by concurrent mincing and mixing), according to the formulae prescribed in technological instructions. Since the temperature of meat mixture due to mechanical processing increases, ice produced in the establishment's ice makers may be added; the temperature of meat mixture must not exceed 18 °C at the end of mixing and the temperature of premises must not exceed 12 °C. At the manufacture of hard salami, the preparation of meat mixture is followed by maturing – for 24 hours at the temperature of 4 °C.

Stuffing/filling of casings (intestines, pig stomachs, artificial casings) with meat mixture is performed using pneumatic, hydraulic, mechanic and vacuum machines at continuous mechanised lines. From the hygiene viewpoint, vacuum stuffing/filling machines seem to be the most appropriate, since less air gets into the rods/casings and finished products are more durable. The recommended temperature of premises is 12 °C, and the relative humidity 70 %. Stuffed rods/casings are transported to an intermediary store or to heat treatment department/plant.

Semi-dry, soft and hard salami are, after binding up of the casings, subjected to drying, i.e. holding of suspended rods for a prescribed time period at the temperature of 4-8°C, in order the meat mixture thickens and matures and the casings dry up.

Heat treatment is performed in stationary smoking and heat treatment chambers, combined chambers or facilities for continuous heat treatment with automatic control of temperature and relative humidity. The chambers must be equipped with appliances for the control of temperature and relative humidity; heat treatment regimes (time and temperature of treatment) must be recorded. The temperature of surfaces in operational premises must not exceed 35-45 °C.

A smoke obtained in smoke producers or stationary chambers (in which combustion takes place directly under products) from sawdust or wood from hardwood trees is used for smoking with warm smoke. From the hygiene viewpoint, thermo-chambers with smoke producers fitted with appliances for cleaning the produced smoke seem to be the best solution.

Heat treatment of cooked and semi-dry meat products (sausages) consists of smoking using warm smoke and cooking. Smoking is performed at the temperature of 80-110 °C for 60-140 minutes according to the diameter of casings used (core temperature 40-45 °C); cooking is performed at the temperature of 75-85 °C (core temperature 70-72 °C)

in the case of cooked meat products, 68–72 °C in the case of semi-dry products, 68 °C in the case of soft products, and 72 °C in the case of liver sausage.

Smoking of hard salami is performed at the temperature of 18-22 °C for 2-3 days which is followed by drying at the temperature of 10-12 °C and relative humidity of 75-78 % for 25-30 days; semi-dry and soft products are smoked at different regimes (35-50 °C for 24 hours, first smoking: 70-80 °C, second smoking: 40-45 °C). In order to prevent shrinking, loss of humidity and increase in the number of microorganisms, products must be chilled after cooking promptly – by spraying with cold water and then in chambers or tunnels with the temperature of -10 °C.

A special attention must be paid to the manufacture of white and black pudding, liver sausages, aspics, jellies etc. Various raw materials (by-products, meat from heads, blood, etc.) representing good nutrient media for microorganisms, as well as manual procedures, are used for the manufacture thereof. The relevant raw materials are pre-cooked (in warm water for 15-20 minutes) or cooked (in open boilers for 3-5 hours or in closed boilers for 1.5-2.5 hours) at first, then placed in thin layers on tables or shelves and then cut manually in order to remove bones. Following it, the cooked and pre-cooked raw materials are ground. Further technological procedures are analogical to those used at the manufacture of cooked meat products.

The time of pre-cooking (5-6 hours) and final cooking (60 minutes), the shortest possible time between cutting, grinding and second cooking, cleanness of filling machines and moulds (the moulds must be sterilised beforehand), as well as the conditions under which the products are chilled, must be strictly controlled at the manufacture of jellies. The rules of personal hygiene must be observed and the relevant documents/records on finished products must be drawn up properly.

**Processing of meat and meat products subjected to decontamination.** Meat and meat products which, according to “Rules for veterinary inspection of slaughter animals, meat and meat products”, cannot be released for human consumption without previous treatment shall subject to decontamination.

Meat and meat products in pieces up to 2 kg of weight and the maximum diameter of 8 cm are decontaminated by cooking: in open boilers for 3 hours, in closed boilers for 2.5 hours at the pressure of 0.5 MPa. The meat is considered to be decontaminated when core temperature reaches at least 80 °C; the cooking is performed in the sterilisation department/plant.

Processing of meat to meat products and canned meat in the case of animal diseases listed in Part 3 of the above mentioned Rules is performed in meat processing plants equipped with the relevant operational premises, under the following conditions: cutting of carcasses, preparation of meat mixture and filling cans with meat must be performed on separate tables, using separate packagings, in separate rooms or during separate working shifts, under the supervision of the establishment’s veterinarian or hygienist. All non-food waste is dispatched from the establishment after cooking for at least 3 hours or it is dispatched for the manufacture of dried petfood. Meat products (salami) are cooked at the temperature of 88-90 °C for the time necessary for reaching core temperature of at least 75 °C, the weight of meat loafs prepared from such meat must not exceed 2.5 kg and they must be baked for at least 2-2.5 hours at the temperature of at least 120 °C (core temperature of 85 °C at minimum).

**Transport of meat and meat products.** The transport of meat and meat products must be performed using refrigerated vehicles, isothermal vehicles or refrigerated rail wagons or boats. Meat and by-products must not be transported together with finished products.

All products dispatched from establishments must be accompanied by the attestation of quality, meat and meat products dispatched outside the administrative territory in question must be accompanied by veterinary certificate as well.

Storage and sale times of meat products are established in the relevant technical documentation for each type of product, as well as in standard No SanPiN 42-123-4117-86 of 20 July 1986 “Hygiene rules: Storage and sale times of rapidly perishable products”.