

Veterinary Sanitary Examination of Milk and Dairy Products in the Markets

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Abstract: Veterinary sanitary expertise ensures the delivery of healthy products to consumers by determining the microorganisms, physical and chemical properties and levels of contamination in milk. The article also highlights the importance of laboratory analysis and compliance with sanitary requirements for dairy products before they are released into the market. Based on the results of the study, the main criteria for determining the suitability of dairy products for safe consumption are presented.

Keys words: milk and dairy products, expertise, laboratory.

Relevance of the topic: The quality and safety of dairy products sold in the markets are of great importance for public health. Milk is a perishable product and, if stored improperly or sanitary requirements are not observed, can cause the spread of various infectious diseases. Therefore, checking the compliance of dairy products sold in the markets with sanitary and hygienic standards is an urgent issue. By studying this topic, proposals and conclusions will be developed that will serve to provide the population with high-quality and safe food.



Level of knowledge of the topic: Sanitary and veterinary rules for the sale of milk and dairy products in the markets: In the markets, a certificate issued by a veterinarian (paramedic) confirming the health of the farm from infectious diseases of animals for a period of one month. Milk and dairy products brought for sale with the issued certificate (Appendix 1) undergo a veterinary sanitary examination in the veterinary-sanitary examination laboratories of the markets and are allowed in trading places that meet the requirements of sanitary and hygienic rules established by the market administration.

Milk and dairy products sold in the markets undergo a veterinary-sanitary examination. It is prohibited to sell milk and dairy products that have not passed a veterinary-sanitary examination at the meat-milk and food control point of the market (except for state trade). Milk and dairy products from farms free from infectious diseases of animals are allowed to be sold, which must be confirmed by a certificate issued by a veterinarian (paramedic) for a period of no more than one month. The certificate must indicate the date of subclinical mastitis, vaccinations against anthrax, tuberculosis, brucellosis and other studies conducted by the veterinarian (paramedic) serving the farm. It is prohibited to sell milk and dairy products: from farms (including households) infected with anthrax, emphysematous carbuncle, rabies, paratuberculosis, tuberculosis, brucellosis, foot and mouth disease, smallpox, dangerous catarrhal fever, leptospirosis, salmonellosis; from animals that are sick and test positive for brucellosis or tuberculosis; from cows that are clinically ill with leukemia, actinomycosis and udder necrobacteriosis, mastitis, gastroenteritis and endometritis. If milk from cows (buffaloes), sheep, goats and mares infected with these diseases is submitted for veterinary and sanitary examination, it must be destroyed under the supervision of a veterinarian in the presence of a representative (owner) of the farm. An act on the destruction of milk and dairy products is drawn up in two copies, one of which is handed over to the owner, and the other is stored in the working documents of the veterinary service.

Prevention of the appearance of microorganisms and their toxins dangerous to humans and animals from milk: regular examination of cows for tuberculosis, brucellosis, mastitis and isolation of sick animals; maintaining cleanliness of animals, livestock farms, milking parlors and blocks; primary processing of milk is carried out by keeping milking equipment clean and constantly carrying out sanitary and hygienic measures. Primary processing of milk includes the sequential processes of filtration, cooling and pasteurization. Mechanical impurities in the milk are removed by filtration. Simple filters and centrifuges are used for this. Cooling milk to 4-6 °C maintains its primary quality for up to a day, and cooling to 10 °C for up to 5 hours. For pasteurization, it is enough to hold the milk at 85 °C for 30 minutes. This will achieve complete destruction of pathogens of dangerous infectious diseases such as tuberculosis, brucellosis, and protein. The sanitary condition of the milk receiving point and dairy plants has a certain impact on the quality of milk and products made from it.

Object of research: Milk and dairy products sold in the markets.

Materials and methods: Milk is examined using several physicochemical and organoleptic methods during veterinary and sanitary examination. The main methods are listed below:

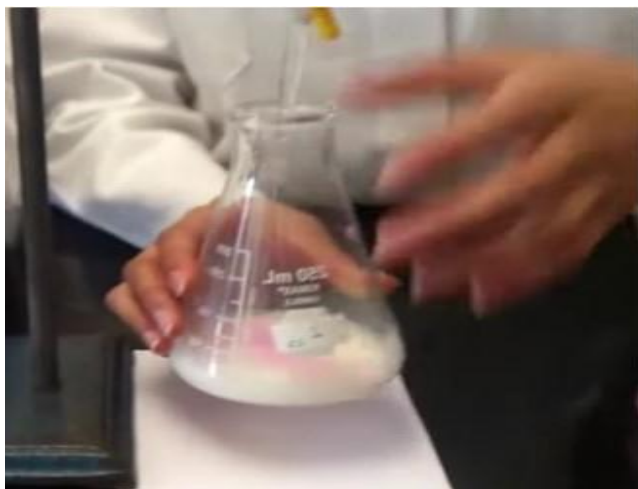
Organoleptic examination - the color, taste, smell and consistency of milk are determined by organoleptic examination. Tasting is carried out only after boiling milk. The color of milk is determined in a white glass cylinder under the light of a lamp, the smell and taste are determined by the sense organs, and the consistency is determined by the trace left on the wall of the cylinder after pouring the milk. And the organoleptic indicators of the dairy product we examined are the norm.

Physicochemical analyzes. Density (using an aerometer) - determining the addition of water. Determining the density of milk. The density of milk is determined using a hydrometer. The temperature of the milk whose density is being determined should be 15-20 °. When determining the density of milk, an hydrometer and 250 ml. A measuring cylinder is used. The hydrometer has two scales, the upper scale shows the temperature of the milk, and the lower scale shows the actual density of the milk. The hydrometer immersed in the cylinder is left in a calm state for 1-2 minutes, and then it is calculated based on the temperature of the milk. If the temperature of the milk is 20, the actual density of the milk corresponds to the hydrometer reading. If the temperature of the milk during the

determination is more or less than 20° , a correction is made using a special table. The fat content is measured by the Gerber method.

Determination of the fat content of milk. For this, 10 milliliters of sulfuric acid are added to dry clean gyrometers numbered on a stand using a dispenser. Then the milk under test is thoroughly mixed and 10.77 milliliters of milk are added to each gyrometer using a special pipette. When pouring milk taken in a pipette into the gyrometer, the milk should be poured slowly along the wall of the gyrometer. That is, a layer of milk is formed on top of the acid layer. In order for all the milk taken in the pipette to fall into the gyrometer, the tip of the pipette must be touched to the inner wall of the gyrometer's neck. It is impossible to blow the milk remaining in the pipette into the gyrometer. Finally, 1 ml of isoamyl alcohol is poured into the gyrometer without wetting the mouth of the gyrometer, if the mouth of the gyrometer is wet, the gyrometer's stopper will come out. The mouth of the gyrometer filled in this way must be tightly closed with a rubber stopper. When inserting the stopper into the gyrometer, it is necessary to hold the wide part of the gyrometer with a hand towel. Then the gyrometer is shaken and the contents are mixed. Then the gyrometers are kept in a water bath at a temperature of 65° for 5 minutes. Then the gyrometers are removed from the water bath and wiped, and the stoppers are placed in the centrifuge cartridge and placed in the centrifuge, then the centrifuge lid is closed and centrifuged for 5 minutes (the centrifuge rotation speed should be 1000 times per minute). The gyrometers removed from the centrifuge are again held in a water bath with a temperature of 65° for 5 minutes with the stoppers facing down. After the gyrometers are removed from the water bath, they are wiped with a towel. Then, the oil is determined by looking at the scale divisions of the gyrometer.

Determination of the acidity of milk. Before starting work, the pipette required for the work should be shaken with the milk being tested. Then 10 ml of the milk being tested is measured into a conical flask using a pipette, and 20 ml of distilled water is added to it using a flat pipette. Then 2-3 drops of a 1% alcoholic solution of phenolphthalein are mixed on top of the mixture, and 0.1 N alkali solution is added to the flask from a burette until the color of the milk turns red. To express the acidity of milk in Turner ($^{\circ}$ T), the amount of alkali used in the titration (in milliliters) is multiplied by 10 and calculated for 100 ml.



It is considered unfit for consumption in the following cases:

- a) from farms (including households) and farms that are unhealthy for anthrax, rubella, rabies, paratuberculosis, tuberculosis, brucellosis, protein, smallpox, low-quality catarrhal fever, leptospirosis, salmonellosis;
- b) from animals that are sick and have a positive reaction to brucellosis or tuberculosis when tested;
- c) from animals that have leukemia, udder actinomycosis and necrobacteriosis, mastitis, gastroenteritis and endometritis;
- g) milk with an unusual smell (oil products, onions, garlic, etc.), residues of chemicals used to protect

plants and animals, antibiotics, as well as milk that does not meet the established requirements for physicochemical parameters (density, acidity, fat content) and contamination with bacteria; d) when adulterated; Veterinary and sanitary examination of milk.

High-quality cow's milk is a homogeneous liquid in appearance and consistency, from white to light yellow in color, without sediment and impurities. Taste and smell are specific for milk, without sharp foreign tastes and odors. Fat content is at least 3.2%. Density should be 1.027 - 1.035 g / cm³, acidity Turner degree (T⁰) 16 - 20. Milk with an acidity of less than 16 ° T is not put up for sale until the cause of low acidity is determined. If the decrease in acidity in the milk sample is caused by a nutritional factor, then it is exceptionally put up for sale with a blue label if the acidity is up to 14 ° T, as well as if the fat content is less than 3.2%.

Conclusion: According to the results of the study, it was found that dairy products sold in the markets are not always stored in accordance with sanitary requirements. This can have a negative impact on the health of consumers. Therefore, it is necessary to strengthen control by sanitary and epidemiological services, regularly train sellers, and take systematic measures to provide the population with quality products.

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