

## RESEARCH ON COMPLIANCE OF OBTAINING HEALTH UNITS IN MILK BIHOR COUNTY. MILKING HYGIENE COMPLIANCE AND PRIMARY TREATMENT OF MILK

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### **Abstract**

*In the EU milk and dairy products is particularly important and common feature is that all Member States without exception are producing milk resulting milk is a food competition also important as.*

*In our country, raising animals for milk is the main occupation in rural areas, providing income breeders. Milk represents a sector that occupies only 16% of agricultural production.*

*One of the main objective of U.E. in this context is to increase milk quality.*

*Even if the principles of respect for the rules of hygiene are known by all manufacturers, application of the rules of hygiene is a totally elusive goal in a transition economy rapidly.*

**Key words:** milk, milking hygiene, parameters dairy farms.

### **INTRODUCTION**

C.E. Directive states that drinking milk raw milk intended for consumption, and heat-treated milk in optimal condition for market capitalization must match first microbiological and quality requirements. One of the main objective of U.E. in this context is to increase milk quality.

For the manufacturer to be involved directly in order to obtain a high quality product, material should be interested, it resumed to pay differentiated milk.

In our country the payment is made by milk fat and density. To obtain a high quality product, which is within the limits set by European legislation and not only have to comply to the farm hygiene, hygiene and thermal conditions of storage after production, but primarily and especially milking hygiene must be observed. Milk is a product of mammary secretion and consists of physical-chemically dispersed heterogeneous system in which mineral salts form solutions and substances occurring in colloidal protein and fat emulsion.

On leaving the udder, milk is not sterile because there are always germs that can contaminate milk during milking if it does not comply with the rules of hygiene related. If the number of bacteria is greater than the number allowed by law, means there is infection of the nipple.

If there is infection of the nipple during obtaining milk may become contaminated with microorganisms from the external environment, with the

main sources shelters (microorganisms involved in feed and bedding dust, airborne microbial load resulting from manure and dirt on the animal if is done a proper animal hygiene properly) hands of those who carry out the milking, milking or nipples if milking machines if they were not previously cleaned and disinfected.

Due to these reasons and others, I considered doing research for this purpose, namely research and analysis of risks that may occur in milk even in its early stages to obtain.

Even if the principles of hygiene compliance are known by all manufacturers, application of the rules of hygiene is a totally elusive goal in a transition economy rapidly.

Starting from this premise, but also for other reasons we considered necessary to conduct a survey, over 80% of farms in Bihor county, taking into account both firm status of companies or family associations and private household units that have the 5 up livestock. I really insisted on the latter because rural residents who fall into this "situation", collects milk to capitalize it getting mixed with quantities of milk obtained from farms, not ultimately the consumer.

#### **MATERIAL AND METHODS**

Through this survey we aimed to evaluate the compliance with basic hygiene such as:

- Hygiene rules on the type of litter;
- Rules of hygiene of milking system,
- Rules on manure disposal;
- Rules of hygiene of washing and disinfection milking machines and other vessels and their peripheral devices;
- Hygiene rules on the storage of Milking machines and other devices attached to them;
- Hygiene rules on the storage of fresh milk milking
- Rules of hygiene on "space" for cooling the milk;
- Compliance with the hygiene of milk transport.

For this survey we have identified the first localities where there are firm but contact with doctors and veterinary assistants for this area. Number type farms are family companies or associations of 22, and the number of own household units in rural areas, 26.

The survey itself consists of the following:

POLL

1. Location.....common.....
2. Company name.....other.....
3. Presence or absence of water or household unit/other.....
4. What is the number of cows.....
5. What kind of shelter there (description).....
6. Shelter area.....
7. How many windows ventilation is provided shelter.....
8. What is the distance between shelter and space is intended for cooling milk .....
9. What are the storage facilities.....
10. What material is provided bedding straw, sawdust, other (specify).....
11. What is the order of administration of the feed:
  - Before milking
  - During milking
  - After milking
12. What is the time of administration of the feed:
  - 1 hour before milking
  - An hour after milking
  - 2 hours before milking
  - 2 hours after milking
13. Which includes manure removal system:
  - Manual drain
  - Other exhaust systems, description
14. Animal hygiene is performed.....
15. Milking is done manually.....
16. Milking is done mechanically.....
17. Check the mammary gland of animals.....
18. Check the condition of nipples milking machines.....
19. What kind of dish or storage devices are used for fresh milk milking description.....
20. Mammary gland wash, description.....
21. Remove mammary gland, description .....
22. Cleaning products is:
  - After each milking
  - Every day
  - Wash with detergents or ....., description.....
23. Milking machines cleaning is done:
  - After each milking

- Every day
- Wash with detergents or ....., description.....
- 24. Milk cleaning filter / type of material.....
- 25. Check the temperature of the milk after milking:
  - daily
  - weekly
  - random
  - all
- 26. Describe the space that store and cooled milk .....
- 27. Check milk temperature after cooling:
  - daily
  - weekly
  - random
  - all
- 28. What "methods" used to prevent acidification of milk, description .....
- 29. What devices transport milk collection units and / or processing and the means of transport used, description.....
- 30. What are the tests that are done on taking milk, description .....
- 31. In the category of quality generally fall led your milk .....
- 32. In the category of quality fall collection unit .....
- 33. How often do you wash your hands during milking .....

I really wanted to go this last question "How often do you wash your hands during milking" to see the farmer's degree of concern about personal hygiene during milking process in a time when everyone is expecting completion of the survey, as this is very important in order to comply with quality parameters. Also survey also contains a question Trap role, namely "What methods used to prevent acidification of milk, description" in order to see if tracks are deviations or milk falsification by introducing substances with anticoagulant.

I watched this survey include not only general questions following this closely as it can be important that you give the farmer or householder with important hygiene rules for obtaining a quality product.

## **RESULTS AND DISCUSSION**

Survey we conducted in 48 units in Bihor county, of which 22 units are companies status and family associations, and 26 units are individual households. It is not by chance that in this work we identified a greater number of households own type units as a result of research conducted by other authors, in our country type units report their rural households is higher than the number of farms the dairy itself. Hence the importance of

compliance with hygiene regulations that you have to pay every person involved in this case.

Except 3 units of own household who had no running water connected to their network or network remaining 45 units were communal water pipe.

The company farms or family association type, number of livestock ranging from 15 to 35 cows and the households own livestock number is between 5 and 7 cows.

Farms have specific shelters, large compartmentalized high, well ventilated, with sawdust or shavings bedding, which are provided with manure removal with scrapers. All these units animal hygiene is done once a day.

Own household units have specific shelters, smaller, less air spaces with bedding and manure removal is done manually. These units animal hygiene is differentiated according to the time it takes each household. After research I found that undertaken not meet hygiene standards in terms animal hygiene to households own some type units in Bihor County, this being achieved in 8 households only 2 times a week.

Facilities where wash rooms and kept milking and other peripheral devices differ from having a commercial units in the households own the latter being comparatively inferior. Their inferiority is that space is not only used for this purpose. Unfortunately, even if the household itself is connected to the water supply system, discussed the space is not connected to water, over 50% of households, and washing devices being made by hand in most cases. Hygiene of milking breast before is an important measure, which is generally not observed due to cost and overtime. The results of the survey on this issue we have presented in Table 1.

Table 1

Hygiene before milking breast

Milking Method	Number of units	Washing and decontamination breast									
		Cold water		Hot water		Sodium hypochlorite solution		Cold water mixed with cationic disinfectant		Warm water mixed with cationic disinfectant	
Mechanical milking	28	1	3.57%	8	28.57%	2	7.14%	4	14%	13	46.42%
Manual milking	20	3	15%	8	40%	0	0	0	0	9	45%
Total	48	4	8.33%	16	33.33%	2	4.16%	4	8.33%	22	45.83%

From milking hygiene survey results that applies to all units but differently. Note that the 16 units of the mammary gland is washing with warm water and wash to 4 units is made with cold water.

The pleasant surprise is the decontamination of the mammary gland that occurs mainly according to the survey, household type units, where the importance of the hygiene measures implemented by the household is not ordinary, but rather represents an operation realized its own sense.

Rural household type is often a last-aged person who may not know how to read or write, but when one hears information you consider trying to use logic, resulting in them as wisdom, conscience and common sense there.

Unpleasant surprise is the small number of units but the commercial status know the importance of washing and disinfection process of the mammary gland is not yet applied as expected.

In companies we surveyed, we found that the removal process is almost completely mammary gland.

Deleting is made of cloth towels and gauze. In most units towels wash with hot soapy water, then rinse with water. Unfortunately the towel disinfection process is missing in all units.

Also in the case of mechanical milking teat of the situation is quite worrisome, as 50% of the units equipped with mechanical milking system, because not taken a particular interest of this method.

Impure suspensions resulting from the milking process can be removed by filtration. Filtering can be provided over the site with a layer or two of cheesecloth.

Utensils used for this purpose wash and bring to the boil for blanching in order to disinfect them after each use.

I have encountered situations in which filtering is done only with gauze, which applies across storage device, but not recommended.

Cooling milk immediately after milking is an important measure to extend the storage of milk.

The laws of our country regulates the maximum temperature of the fresh milk delivery is max. 140C.

EU legislative rules specify that if milk was not delivered within 2 hours after production, it must be cooled suddenly max. 80C if delivered daily, cooled to approx. 40C if delivered in two days.

After analyzing the survey, we found that milk from units are delivered daily, observing temperature conditions. In his own household type units, the milk is cooled in gutters on the outside with cold water pools, which is gradually changed.

Hygiene measures to be taken for cleaning and disinfection of milking machines and collection vessels, is important because it is the

primary source of contamination of milk immediately after getting it. In this case we found that all units, wash them with warm water.

Decontamination is the result ash and commercial detergents, as can be seen in Table 2.

Table 2

Milking equipment decontamination and collection pots

Milking Method	Number of units	Soda ash		Commercial detergents	
		Nr.	%	Nr.	%
Manual milking	20	8	40	12	60
Mechanical milking	28	12	42.85	16	57.14
Total	48	20	41.66	28	58.33

Most authors in the field recommend washing milking machines and related devices immediately after emptying their water at temperatures between 38-40°C, disinfection detergent solutions at 45°C, and finally rinse with cold water.

In any disinfection unit I found that milking machines and related devices is done with acid solutions.

The primary analyzes which are at the reception of milk collection points are: the determination of milk fat and density determination.

Following analysis bulletins received by producers to collection, we found that the milk in the category of good and very good.

## CONCLUSIONS

The result of the survey and research undertaken taken in general is that they are respected to a certain extent with the minimum standards of hygiene, in units of obtaining milk from Bihor county.

If they take into account each stage and review compliance with hygiene regulations according to legislative requirements, it would appear that they are some deviations.

Hygiene standards imposed by law in our country claim to not exact and uniform application at any stage, always with alternative manufacturer.

On units with commercial status conditions are better, have cold water supply and hot water are provided with sewerage system, but not the washing and decontamination practice according to legislative requirements.

On units with the status of their households, rural farmer tries to adapt mostly hygiene rules, even if do not have adequate facilities.

Common problem of both types of units remains but payment is not differentiated product. If payment product would meet the needs of the producer, and then his interest would be higher.

In units with commercial status is necessary to establish a monitoring and verification measures of hygiene and disinfection.

In units with their household status is required to inform all citizens in rural areas to raise awareness of the importance of compliance with the hygiene, compliance with legislation, supporting sanctions stipulated otherwise.

## **RECOMMENDATIONS**

First international rules should be established to define a special feature of all high quality products and differentiated payments based manufacturer of product obtained.

It would be advisable to grant review of the operating license for the units to be producing food.

Rural producers should be registered for the competent authorities to supervise and monitor compliance with hygiene.

It would be recommended that in milk collection points to be employed personally know the notions laboratory that can perform microbiological analyzes character.

## **Acknowledgments**

Thanks to all the staff and all the people who made possible this research work.

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