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## Formation of quality of dairy products on the example of a family business Kaasboerderij Weenink Netherlands.

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### ABSTRACT

For example, specialized dairy enterprises with a complete production cycle - Kaasboerderij Weenink consider a system for dairy cattle. Dairy herd represented a cross between Simmental dairy and beef productivity and Holsteins. The reproduction of the herd is carried out under the supervision of specialists of the company Bayern-geneticist. Daily milk yield of 25 kg/head. The fat content – 4,5% protein – 3,5%. Feeding corresponds to the productivity of animals, milking is done milking robot company «GEA Mlone». Everything gets milk is processed into cheese gouda technology.

**Keywords:** cattle breeding, the content of dairy cattle, Simmental breed, Holstein, Gouda cheese

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## INTRODUCTION

Kingdom of the Netherlands - one of the world leaders in the production and processing of milk. The volume of production in 2014 amounted to 11.6 million ton (11 th place in the world), with an increase of 7.8% compared to 2011. According to the production of milk per capita (900 kg), the Netherlands ranked third, and the lead on this indicator New Zealand (2400 kg), Ireland (1500 kg). In the Netherlands, agriculture employs only 5% of the population. Horticulture, floriculture, along with - the leading branch of agricultural production.

Family farms are the basis of the livestock industry of the Netherlands. These are mainly small and medium-sized farms with a total area of less than 10 hectares of land, the number of cows - from 50 to 150 goal. However, the country's highly developed agricultural cooperatives that allows small family farms to solve some social problems together and to feel confident in the market [4]. Develop intensive, high-yield production of Dutch farmers helps high level of automation of labor and the use of agricultural machinery. Much attention is paid to breeding work. Even small-scale producers of milk and meat cooperate in the selection and breeding work with specialists. Also, no less important lever of business development is the availability of credit: Dutch farmers, including the smallest, can be fairly easy to get loans from banks or agricultural cooperatives [4].

## RESULTS AND DISCUSSION

For example, specialized dairy enterprise Kaasboerderij Weenink, located in a small village Lievelede Gelderland province in the east of the Netherlands consider the how to ensure the highest quality of dairy products in this country.

On the territory of the enterprise there are two dairy farms and cheese production workshop. A complete cycle of production and processing of milk. Continuity of generations - one of the characteristics of farmers. On the territory to preserve the historical building - an old cheese factory (Figure 1), while the production of cheese made in a new building, equipped with modern cheese-making equipment (Figure 2).



Figure 1: Historical building dairies



Figure 2: A new cheese factory

The farm contains 90 dairy cows, including dairy - 75 dry cow - 15. More precisely, it is not purebred dairy cows, and a cross between Simmental dairy beef productivity and Holsteins. Selecting breeds for farmers plays a decisive role in obtaining the final result, namely Gouda cheese. Therefore, the owner of the company Mr. Venink cooperating with Bavarian geneticist Stef Bink, a representative of the company Bayern-geneticist. The firm is the leading organization for breeding Simmental cattle [1].

Simmental breed is famous not only for good conformation indicators, as well as resistance to infectious diseases, high enough dairy. The yield on average 23-28 kg / head. The milk from these animals is considered suitable for the production of cheese not only favorable ratio of protein and fat (0.8), but also due to the low amount of genetically somatic cells [3; 7-9]. This economy is guaranteed by the additional income from the sale of calves, reached 3 months of age for feeding and subsequent implementation in meat processing plants.

Cows kept without a leash, however, to have a private space with a lot of litter, consisting of finely divided straw mixed with limestone. Such a composition of litter has indisputable advantages: hygroscopic, free-flowing, relatively low bulk density. Cows willingly rest on a mat. After resting particles are poured easily from the hair of the animal, and, importantly, do not leave dirt on the body.

A special feature is the breeding the absence of any mode of feeding and milking. That is, it is carried out according to need.

Once a week at the feeding table is downloaded feeds. Cows eat the food in the immediate vicinity of the fence, and gradually formed an empty space. In this regard the feed are periodically shifted to the center from the enclosing barriers. Thus, the feed table space is shrinking, and the food is once again within reach for cows (Figure 3). It should be emphasized that the cows have access to feed the clock.



**Figure 3: Organization of feeding cows**

Milking cows is also carried virtually around the clock by a milking robot company «GEA Mlone» with two devices for milking, which enables the process of milking two cows at the same time.

Each cow passing through the gates, which open after the release of one of the places for milking, identified by the reader. In view of its performance, including body weight, the amount of milk yield and milk composition in the trough is loaded with the calculated amount of feed additive premix, and the cow he eats it with pleasure. At the same time an automatic milking apparatus equipped with a 3D camera attaches the teat cups to the udder and the milking process is started.

It should be noted that the device is programmed so that the initial point, i.e. before fixing the teat cups to the udder, teats washed with warm water. And another important point: the first 10 jets of milk does

not come to a common tank, that is primary, the most servings of milk contamination (bacterial cork), do not fall into the overall milk yield.

The value of milk yield is recorded by a counter, and the result is displayed on the computer screen. Thus, the account of milk produced is carried out continuously. Another very important function of the installation is to identify abnormal milk. In the event of such milk, it immediately merges automatically, completely eliminating the possibility of their falling into the processing line.

Multiplicity milking, the average is 2,7. High yielding cows (40 kg / head) pass through the unit 4 times a day, and the cows with a yield of 10 kg / head and below - one or two times depending on their needs. This is the essence of voluntary milking.

The quality of milk from each cow is determined once a month in a special dairy laboratory. All data on the quality of milk, including the number of somatic cells and bacterial contamination is transmitted over the network to the owner of the farm. Thus, also revealed the incidence of mastitis subclinical udder to promptly were treated animal. However, it should be noted that cases of mastitis are very rare (2-3 per year).

In case of technical problems, identify hazards, and others, aggregate issues an alarm and stops the process of using the software sends a message (SMS) on the cell phone the person in charge.

The total yield of milk on the farm is 1900 liters of milk per day. Fat content in milk, an average of 4,50%, protein – 3,50%.

The resulting milk is piped into a storage tank, located in an adjacent industrial building and is used for the production of Gouda cheese technology. Mature cheese sold in the store, located on the territory of the farm.

#### CONCLUSION

Based on the research of many authors found that the composition and properties of milk Simmental cows have some to specific features and advantage to other breeds of cows. Hybrids Simmental and Holstein with yield increase in milk production while preserving the exterior parameters and good resistance of livestock to disease.

An example of the Netherlands demonstrates that agricultural production can be efficient and profitable business, even where there is no chernozems and a favorable climate for agriculture. Of course, the Dutch way of doing agriculture requires a very serious financial investments (what is lacking in the majority of farmers). Status and development of the agrarian economy is largely dependent on the specific characteristics of the regions, which include not only a set of natural factors, but also the content of state and municipal management [10]. However, the experience of foreign farmers shows that with proper use of these funds, they pay for themselves and make a profit. We hope that we have described experience of the dairy enterprise Holland Kaasboerderij Weenink can become an example of organization of production and processing of milk in Russia.

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