

STUDIES CONCERNING THE KEY COW MILK PRODUCTION INDICATORS ON THE OFFICIAL CONTROL OF PRODUCTION IN ROMANIA

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Abstract

The paper scope is to reveal quality of raw milk production obtained in cows farms at national level based on the main technological indicators: average productivity per head, average of fat and protein, average lactation and service period and also the milking cows effective primiparous and multiparous. The values of these indicators is relevant for processing industry and also for the farmers due they influence destination and yield of products obtained in direct correlation with economic results of raw material processing. The study is a statistical one considering only effectives registered in the COP in 30.09.2008. The study revealed that largest milking cows effective is recorded in region 7 where is finding 25,61% of the national effective. At the opposite is situated region 8 with only 1,43% of the national effective. The studied indicators presented variations which sometimes is significant and was observed that they vary independent, registering heterogeneous values.

Key words: cattle population, milk, production, fat, protein

INTRODUCTION

Cow milk is one of the most important products obtained from livestock [4], due to complex chemical composition, biological value and high degree of digestibility. The importance of milk is given, in addition to special nutritional value, that it is raw material for a very large number of milk products, contributing to the diversification of food.

In addition to quantitative production of milk, an important role in his recovery he had a number of indicators used to determine the destination and price of raw milk-material.

The fat and protein [3] contents indicators studied constitute objective in cattle amelioration.

Official control of milk production is to measure and estimate the performance objectives of the selection form to improve the species.

MATERIAL AND METHOD

This research is a statistical analysis of some milk production indicators at national and regional level obtained from Romania cows

population during the 1.10.2007 – 30.09.2008 period.

The primary dates were provided by The Official Control of Performance (COP) [1], one of the mainly departments of the National Agency for Improvement and Reproduction in Animal Husbandry (ANARZ). These dates were statistically processed in order to observe the regional situation of some milk production indicators on the cows population.

RESULTS AND DISCUSSIONS

From administrative point of view, Romania's territory is divided into 42 administrative territorial units (counties), including the state capital.

Based on Chapter 21 "Regional policy and coordination of structural instruments, in 2000, the 42 counties was grouped through voluntary association in 8 development regions (Fig. 1), specific territorial entity without administrative status and legal personality, to pursue the European system of nomenclature of territorial units (NUTS), according to the EU acquis [7].



Fig. 1 – Development Region in Romania (source: apdrp.ro [6])

They are framework for to design, implement and evaluate the regional development policy and programs for economic and social development, and also constitute the specific framework for statistical data collection in accordance with European regulations issued by EUROSTAT.

In this respect, this study reporting the statistical data to regional level.

The Official Control of Production (COP), taken since 2007 by Cattle Farmers Associations and Private Organizations of Production Control, have role to measure and

predict performance which form the selection objectives target [5].

Annually, based on data supplied by operators authorized to carry out the control, is published report of activity in nationwide cattle growth.

The official records of COP centralized to ANARZ indicate that at 30.09.2008, the national total number of cows recorded to the cattle species on Official Control of milk Production was 63.902 from which a number of 16.363, representing an percent of 25,60% in region 7 (Fig. 2).

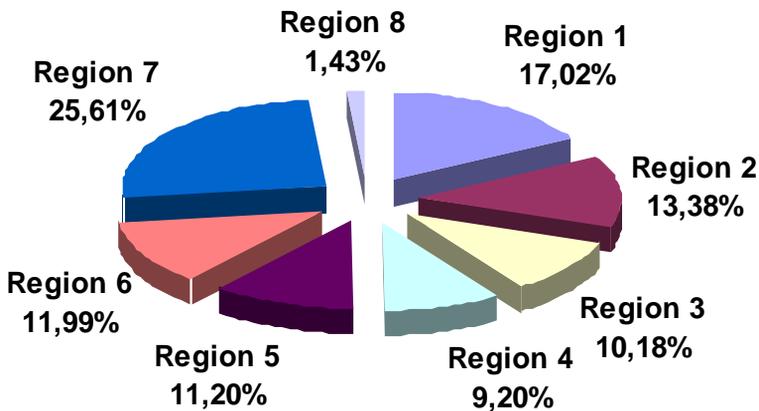


Fig. 2 – Regional distribution of cows

The regional distribution of cows shown that in the 1 and 6 northern regions is concentrated a third part of national milking cows population.

This is due on the one hand to these areas specific occupations closely related to the climate conditions and on the other hand, to the hilly relief which is very appropriate for animal growing.

The southern regions are occupied with cereals crops, the animal growing being less developed than in northern regions. In these regions animal growing is concentrated in the

sub-Carpathian areas and on zones inappropriate for productive vegetal sectors.

The less percent of cows are recorded in 8-th region Bucharest due some specific peculiarities which are: smallest total surface and small surface with agricultural destination.

At national level, a percent of 28,4% represent primiparous, being at first lactation (Fig. 3). This is mostly included in replacement effective, originated both from within the selection from farms herds and also from procurement on national market or imported.

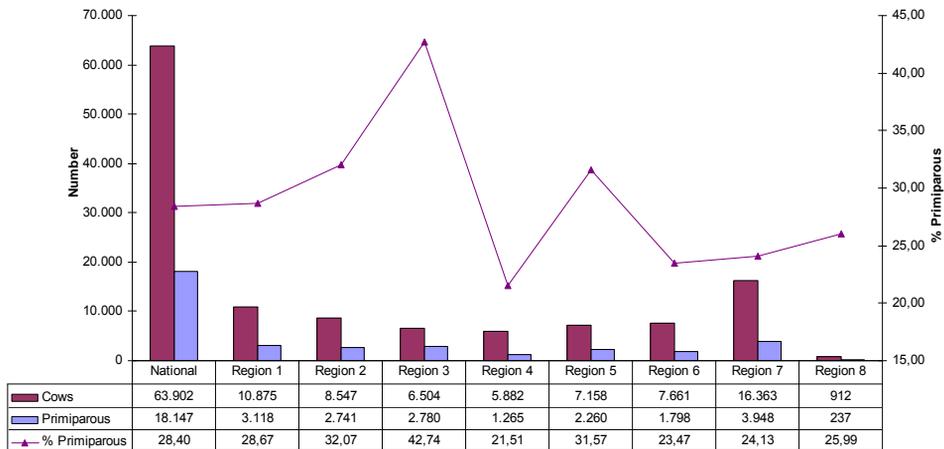


Fig. 3 – Percent of primiparous cows in the population

Due the smaller milk production of the primiparous, this indicator affect production recorded if the percentage of this category is big. We can observe that in region 4 South is recorded a percent of 42,74% primiparous from

the total milking cows. In the regions 2 and 5, over 31% from milking cows is primiparous. On the other hand, in the other four regions this indicator recorded values below 30%, region 4 having the smallest value, respective 21,51%.

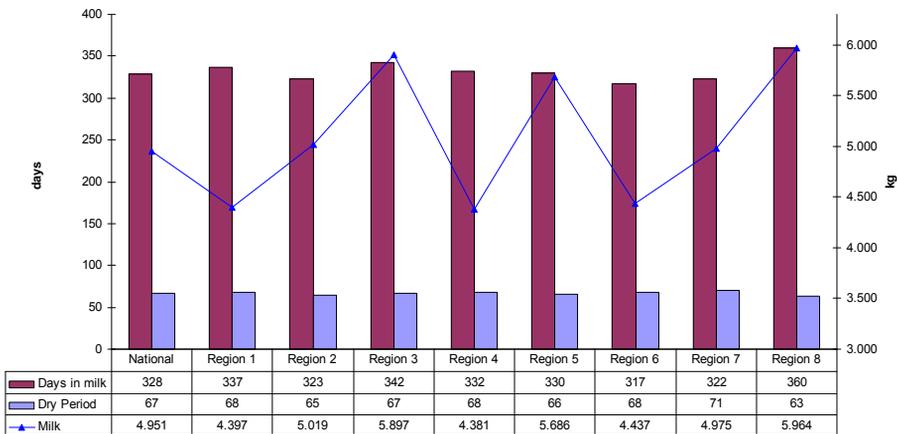


Fig. 4 – The average lactation period and milk production

The lactation and dry periods also influence the milk production obtained.

Concerning average of days in milk indicator, in all regions was recorded values over 315 days, with a maximum of 360 for region 8 and a minimum of 317 days in region 6 (Fig. 4).

To achieve the main objective pursued in dairy farms 1 calf per year per cow fed and to allow the mammary gland to recover, dry period, closely related to lactation period, is very important. We can observe that in all regions, this indicator average is over 60 days, with a minimum of 63 days recorded in region 8 and a maximum of 71 days for region 7.

The average of real milk production has a large variation between regions, with amplitude of 1.583 kg milk.

Maximum of milk production per cow was recorded in region 8 having a value of 5.964 kg. In the same time, the minimum is recorded in region 4 where was record a value of 4.381 kg. Only 3 regions, respective 8, 3 and 5 was recorded productions over 5.600 kg per head. We can note that in other 3 (4, 1 and 6) regions records productions under 4.450 kg milk per head.

Concerning the main quality indicators of milk, in the COP was recorded percent of fat and protein (Fig. 5)

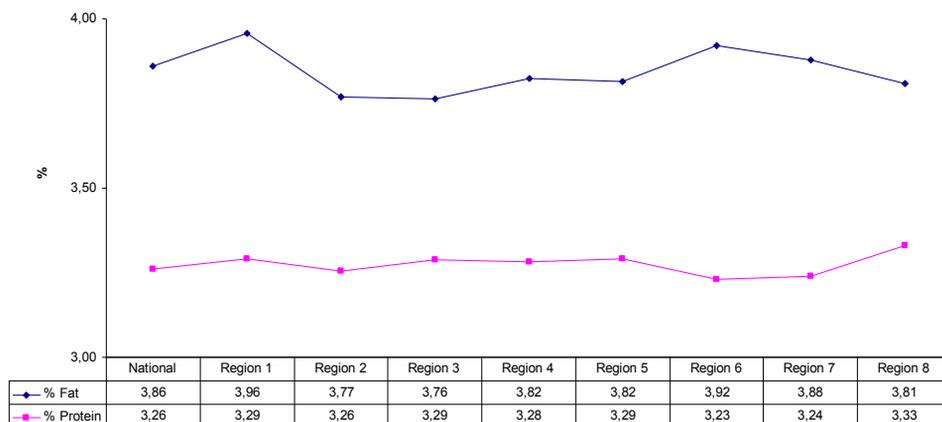


Fig. 5 – The regional average value of milk fat and protein

These are some of the most important technological indicators for milk, due their role in milk products obtaining.

The medium average of milk protein content between the 8 regions have a variation of 0,1%, with a maximum of 3,33% recorded on region 8. In 1, 5 and 3 regions during the study period was record a protein percent of 2,29%, closely followed by region 4 with 2,28%. On the last place is situated region 3 where contents reach 2,23% preceded by regions 7 (3,24%) and 2 (3,26%).

The milk fat level have a double variation (0,2%) comparative with protein content, being situated between 3,96% in region 1 and 3,76% on region 3. Values greater than

national average (3,86%) of this indicator was recorded in regions 6 (3,92%) and 7 (3,88%).

CONCLUSIONS¶

Concerning the key cow milk production indicators on the regional effectiveness of the Official Control of Production (COP) in Romania during the study interval was observed that they vary independent, registering heterogeneous values.

Thus, the region 7, situated on a highly zone, with large hilly and mountainous areas, where milk cows is a traditional occupations, was record 5 maximum of studied indicators averages, respective: number of milky cows and primiparous, percent of milky cows from national population, real raw milk production

and larger dry period per head. In this respect, we can consider that this is the most recommended for growing milky cows.

An interesting situation was recorded in region 8 which is the little as total surface, in the same time having larger urban area on national level.

On this region, as expected is recorded the minimum number of milky cows and primiparous, percent of milky cows from national population and of the dry period.

In the same time, on this region were record maximum average values of protein content and of the days in milk.

The minimum average fat content is recorded in region 3 which presented also the maximum percent of primiparous at nationwide. The average fat content has the large value on region 1.

Region 4 is distinguished by the smallest percentage of primiparous in population but also by the smaller milk average production per head.

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