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STUDY ON THE NUMBER OF CATTLE AND PRODUCTION OBTAINED IN NEAMȚ COUNTY BETWEEN 2010-2018

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Abstract

This paper aims to present the evolution of cattle numbers and production obtained in Neamț County during between 2010-2018. In carrying out this work, we have used statistical data provided by the Directorate for Agriculture and Rural Development, the County Animal Husbandry Office and the Association of Animal Breeders "Operator A.I.". The analysis was carried out within two forms of property: population households and companies and private associations. The following were found: the population households registered a decrease in the number of cattle (ca. 15%) and in the average milk production (ca. 20%), while the companies and private associations had an increase in the cattle population by 44.4% and in the average milk production by 21%. With regard to meat production, the average weight for slaughter increased from 339 kg/head in 2010 to 451 kg/head in 2018, the share being 33.12%. The study found an improvement of the main indicators (cattle number and production) only in the holdings that have at least 40-50 heads compared to the holdings with 1-2 heads.

Key words: *cattle, indicators, meat, milk, Neamț.*

INTRODUCTION

The beef and dairy cattle raising represents a separate production compartment of zoologic culture that is and will remain in the attention of the specialists due to the importance of this sector for the national economy. By its biological ability to convert feed nutrients into valuable products (milk and meat) for human consumption, cattle contribute to the increase of the living standard. Milk, by its composition, meets the requirements for breeding young animals. Over time, genetic and technological improvement (including nutrition), especially in cattle, have led to an increase in milk production to an extent where it can meet a large part of the food requirements of human population in many countries of the world (Halga, 2005). The present age of human society development is characterized by a demographic explosion with a steadily increasing rate of population growth. This is accompanied by an increase in the demand for food, especially of animal origin, and the data in the F.A.O. (www.fao.org) report for 2018 show that approximately 820 million people (almost 11% of the planet's population) deal with food scarcity, more precisely, suffering from hunger and malnutrition. The world total demand for animal products is covered by approximately 42% of developed countries, 12% of developing countries in Group I and over 46% of those in Group II (Georgescu, 2000). In this context, we present the importance of the growth and exploitation of this species, which owns ca. 65% (UVM) of the total number of domestic animals throughout the world and represents the main source of milk and meat, providing over 95% of milk production, 33% of meat production and approximately 90% of the production of hide used in the light industry (Georgescu and Ujică, 1988), to which other important by-products are added (unconventional energy, organic fertilizers etc.). In view of the increasing demand for milk and meat, this can be achieved by increasing the number of cattle and improving their genetics through science and advanced technologies (Ivancia, 2007).

Based on these considerations and taking into account that, in Neamț County, the raising of cattle has always been more consistent compared to other species, we consider this area to offer sufficient arguments to make a study on the evolution of cattle and their productions obtained between 2010 and 2018.

MATERIALS AND METHODS

In order to analyse the results obtained in the field of cattle breeding in Neamț County, a number of indicators were studied: total number of cattle, head-cattle, dairy cows, average milk production per cow head, average weight at slaughter (Acatincăi, 2004). These results were obtained by performing the Official Production Control - milk production in EM (equivalent maturity) over standard lactation (305 days), at the breed level, the situation of the use of the males, according to the number of artificial seeding and natural mounts, as well as from the point of view of combining and correlating the data with numerous observations from the farms studied.

RESULTS AND DISCUSSIONS

During the period studied, we find that the number of cattle decreased from 88,980 heads in 2010 to 75,630 in 2018 (as seen in Table 1 and Figure 1). This decrease occurred mainly in the cattle population owned by the farmers in the area: the explanation is the reduced cattle population as most of the individual households have 1-2 cows and only 0.3% have more than 5 cows per household (Ujică and Maciuc, 2007) and the low productive levels that the species is not profitable and the household has no interest in it.

However, there is an increase in the number of cattle in private companies and associations by 44.4%, most of them with 40-50 heads and the tendency to reach 80-100 heads. This type of cattle farm has not lost its strictly family character.

The basic technological areas (feeding, watering, milking, disposal of manure, etc.) should be automated and computer monitored, thus creating optimal conditions for breeding and exploitation for 100 cows by one farmer and his family members (Otiman, 2006).

Table 1. The dynamics of the cattle population in Neamț County during the years 2010-2018

No.	**Indicator name/Year of reference**	2010	2012	2014	2016	2018	**2010/2018 % (+;-)**
1.	Total number of heads of which:	88,980	86,690	80,682	77,595	75,630	-15.00
2.	Number of cattle in population households	85,774	83,100	77,593	73,525	70,831	-17.42
3.	Number of cattle in companies and private associations	3,206	3,590	3,589	4,070	4,632	+44.44
4.	Head-cattle	44,231	44,028	45,108	47,731	47,041	+6.35
5.	Number of lactating cows	39,860	40,718	43,570	46,041	4,030	+15.47

Source: Directorate for Agriculture and Rural Development

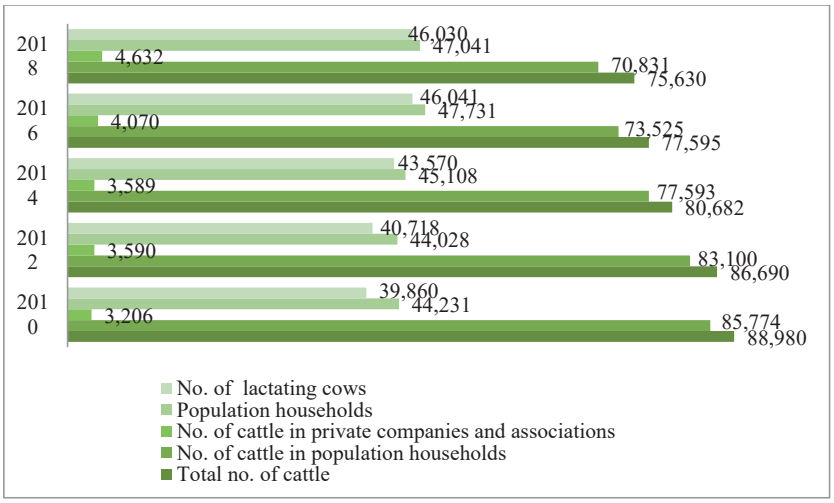

Figure 1. The dynamics of cattle population in Neamț County during the years 2010-2018

Table 2. The dynamics of milk production in dairy cattle in Neamț County during the years 2010-2018

Reference period/Indicator name	Average cattle feed per head (kg)	Average milk production litres per head
2010	39,860	4,113
2012	40,718	3,999
2014	43,570	3,672
2016	46,041	3,041
2018	46,030	3,300

Table 3. Dynamics of beef production in Neamț County during 2010-2018

Reference period/Indicator name	No. of heads slaughtered	Meat production (thousands tons)	Average weight kg per head
2010	32,517	11,012	338
2012	32,944	11,776	357
2014	18,294	7,293	398
2016	15,880	6,668	419
2018	18,697	8,429	451

In Tables 2 and 3 we present the dynamics of the two main productions: milk and meat. We find that the average milk production has decreased continuously from 4,113 litres/head in 2010 to 3,300 litres/head in 2018 in the dairy cattle raised in the households of the population where there is no performance feeding to directly and obviously enhance the level of animal production (Pop, 2006) and where, according to the official control of the performance (COP), the genetic improvement of cattle and reproduction directed mainly by artificial insemination is not applied (Grosu, 2005). If we analyze the data obtained by performing the Official Production Control (Onaciu and Velea, 2000) in the farms studied with a herd of more than 40-50 heads, where cattle of the Brună de Maramureș and the Bălţată cu Negru Românească breeds are raised and exploited and applying modern exploitation technologies (Gemene, 2005), we observed an increase in the average milk production per animal head (as seen in Table 4.)

Table 4. Results obtained in the farms where the O.P.C. was performed

Specification	Average milk production per cow head (litres)		Race code Bull used in A. I.
	2010	2018	
Brună de Maramureș	4,510	5,470	BSW
Bălţată cu Negru Românească	3,750	4,542	HOL

The milk law project aims to regulate the marketing of dairy products, to increase consumer confidence in domestic dairy products and to eliminate falsified products (Coman et al., 2019).

With regard to performance in meat production, the average slaughter weight increased, from 339 kg/head in 2010, to 451 kg/head in 2018, the share being 33.12%, but the increase in meat production in cattle can be obtained not only by increasing the slaughter weight and improving the technological factors of meat production, but also by genetic methods, and crossing with specialized meat breeds is an easy method (Maciuc et al., 2018).

Analyzing the information obtained from the Neamt County Animal Husbandry Office, we can conclude that farmers in Neamț County, who have a small number of animals, have chosen to use in the breeding process of authorized breeding bulls of native breeds. Thus, in the meat production in 2018, 25 bulls were authorized for the natural mount of which a number of 15 bulls were Aberdeen Angus breed, 2 bulls of the Charolaise breed, 1 bull of the Aubrac breed and 7 bulls of the Bălţată Românească breed.

CONCLUSIONS

In Neamț County, there has been a decrease of about 15% in the number of cattle held by the population in the area during the period 2010-2018. This reduction was determined by: the extremely small size of the holdings (1-2 heads); the lack of organized milk collection and its unsatisfying price; mass slaughter of animals; the low level of zoological technical training and information of cattle growers; difficult access to loans in order to obtain financing from European funds for setting up zoological technical farms. However, we found a considerable increase of 44.4% in cattle numbers in farms raising and exploiting more than 40-50 heads, as well as an improvement of milk production; it is unanimously accepted that a larger dimension favours the increase in labour force use as well as in the fixed and working capital with direct and beneficial effect on the economic and social viability of the agricultural holding under commercial agriculture practice conditions. By considering the fact that we are currently importing a significant amount of milk and meat, though we have significant natural and human resources for raising and exploiting cattle in this area of the country in the future, it is necessary to: stimulate and support cattle breeders for the establishment of efficient farms of optimal sizes that can be exploited efficiently and generate profit; the further improvement of the cattle populations, in order to increase the productive potential; extending the biotechnology of artificial insemination by using material from bulls with higher breeding value in the direction of milk and meat production; exploiting the local tradition of raising cattle; increasing the economic power, the level of zoo technical training and information of breeders of this species. The achievement of these objectives implies the formation of a modern breeding sector, in the long term, which, based on the mechanisms specific to the market economy, will enable the full use of the natural and human resources in this area in order to ensure the food security of the population and to strengthen Romania's position in the exchanges of animal products on the world market.

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