

STUDY ON THE EVOLUTION OF THE SHEEP HERDS IN THE MIERSIGULUI PLAIN

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Abstract

The Miersig plain occupies an area of 21496.6 h. The fodder obtained from the exploitation of permanent grasslands in this plain, is an important source of food for several species of animals. Among them are sheep whose exploitation has a major impact on animal husbandry in the area. The number of sheep in the researched area has undergone variations during the last 6 years and due to the irrational exploitation of the meadows.

Key words: sheep, Miersigului Plain, capacity, grazing

INTRODUCTION

The evolution of the socio-political-economic environment has left its mark on all sectors of Romanian agriculture, causing significant changes in the sheep farming sector. Thus, after 1990, the dynamics of sheep herds, together with the change of their breeding directions, were the main factors that contributed to the current situation in Romanian oviculture.

In the year 2017, out of the total of 1,179.8 thousand persons engaged in activities of the national economy in the North -West Development Region, 22.19% work in agriculture, forestry and fishing (Ciuciu I. A. et al, 2018).

An important component of the agricultural sector in the North-West area of Romania is sheep breeding. Romania had a herd of almost 12 million sheep and goats in 2019, similar to Greece, but the density of animals per hundred hectares was three times lower in Romania. In 2019, about 3 million sheep were exported, the volume of live sheep exports was over 1 million tons and amounted to 230 million euros.

The animal load on a meadow is a useful tool for the animal breeder because it allows him to adjust the animal load according to the amount of grass available. In order to establish the correct load, the grazing capacity is calculated, respectively the number of animals that can graze per unit area (Moisuc A., 2001).

The grazing capacity and the optimal load of animals per hectare are calculated, for each meadow separately, according to the methodology provided in Order no. 544 of June 21, 2013.

According to the specialized literature and Order 544/2013, art. 8 (1) the grazing capacity is estimated on the basis of the average green mass production obtained in the previous years, taking into account the soil fertility, the meteorological conditions and the floristic composition of the vegetal carpet; and art.8 (2) stipulates that the number of animals (UVM / ha) must be sufficient to ensure the maximum use of green mass production, while maintaining the long-term sustainability of the meadow (Donita N. et al, 2006).

The ability to graze or load animals, according to Order 544/2013, art. 10, is defined by the number of animals (expressed in units of high UVM cattle) that can be fed throughout the grazing season on 1 ha of meadow, at which the available feed production is known. According to the Methodological Norms for the application of the provisions of the Government Emergency Ordinance no. 34/2013 on the organization, administration and operation of permanent meadows and for amending and supplementing the Land Fund Law no. 18/1991, art. Art. 10. (1) - the introduction of animals on meadows is allowed only during the grazing period, and at par. (2) stipulates: grazing is prohibited in case of excess moisture of the meadow (Stanciu S., 2010, Bacter R.V., D. Popovici, 2019).

The load of the pasture with animals is determined according to its production. The useful production of green mass per hectare, on the meadow surfaces from the analyzed localities, was estimated at 6-8t / ha of green mass, being unevenly distributed. At the first harvest (the first grazing cycles) the green mass production represents approximately 50% of the total production.

During the summer, the grassland production decreases a lot due to the drought, and the grass will then recover in autumn (Berchez O., Stanciu A., 2021, Ciobanu Gh, Domuța C., 2003).

MATERIAL AND METHODS

The study is focused on the evolution of the number of sheep heads exploited in the Miersigului Plain, during 2016-2021. The data was collected from the database of the Bihor Sanitary-Veterinary and Food Safety Directorate. The correlation between the number of existing animals (sheep) and the forage capacity of the studied area was followed.

The identification of soil quality and feed capacity was carried out in the field by direct observations of the soil, registration of the flora existing in the area and monitoring the grazing assessment.

RESULTS AND DISCUSSIONS

Miersigului Plain is part of Crișurilor Plain. It consists of higher strip plain with a slight slope and terraces located under the Hidișel Hill and another lower, in the west, close to the Crisului Channel (Ștef A. V. et al., 2017, Mahara Gh. 2003)

In the Miersigului Plain, the areas of permanent meadows are quite small for the number of animals that grow in the area (Pop P Gr., 2005, Cardașol V. et al., 1997), currently there are 1262 agricultural holdings in the studied area for raising animals (cattle, sheep, goats and pigs) (Brînzan T., 2013), and of these the number of sheep is the largest (Table 1).

Taking into account all the characteristics of the zonal climate, in the meadows of the studied area, the grazing period is about 190 days, from the last decade of April (April 23, St. George) to the end of October (October 26, St. Dumitru) (Benedek A.M., I. Sîrbu, 2009).

Animals may be introduced to pastures after April 20 in dry years, and exceptionally sheep may be allowed to graze after October 26 through November 1.

Table 1

The flocks of sheep in the period 2016 - 2021 in the localities from Câmpia Miersigului

Town/Village	2016	2017	2018	2019	2020	2021
Husasău de Tinca	6184	4017	4303	4140	3569	4319
Fonău	0	0	0	0	0	0
Miersig	2791	1905	2024	2015	1714	2332
Osand	1396	2533	2557	2134	1936	2077
Sititelec	2117	1699	2054	1824	1617	1708
Tinca	6623	6446	7320	7409	6566	6547
Râpa	196	256	256	306	229	379
GrișuNegru	787	1171	1245	424	626	693
Belfir	1288	1484	1868	2062	1553	1595
Gurbediu	3859	4307	5362	5107	5317	5776
Sânmartin	10495	0	589	0	0	0
Băile Felix	0	439	338	853	591	521
Betfia	190	222	489	246	7	0
Cihei	592	549	2513	442	463	319
Cordău	2026	2440	698	2443	2269	2313
Haieu	653	615	0	667	2	0
Rontău	0	0	0	0	0	4
Apateu	1750	1608	2007	1827	1454	1498
Chișirid	1391	1241	1505	1309	1799	1595
Leș	1094	1208	1647	1459	1472	1546
Livada de Bihor	1126	1043	887	760	766	593
Nojorid	1707	1851	1845	1498	1272	113
Pausa	2057	2176	3135	2347	1336	2036
Sauaieu	1010	1130	1037	1126	1536	1390

Ianoșda	0	3229	2484	3466	3460	3534
Gepiu	2682	27781	14323	22403	19026	12189

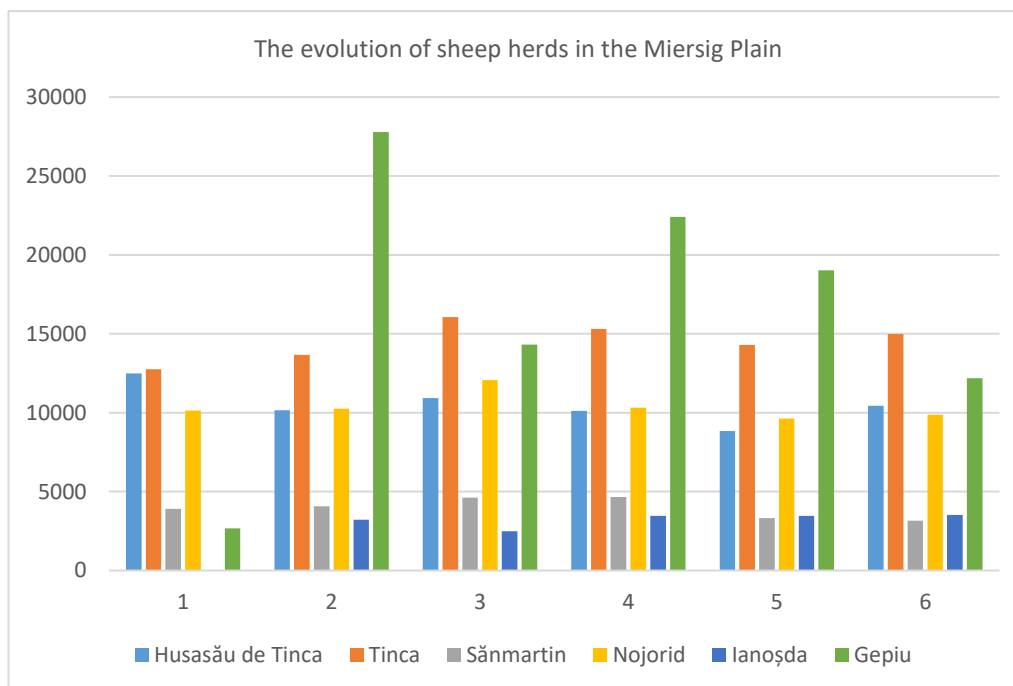


Fig. 1.Evolution of sheep herds in the period 2016-2021

In the area studied by us, the load of animals per unit area is high, and due to the fact that the animals are kept on pasture throughout the year, the forage value and the floristic composition are negatively influenced. As can be seen by studying the data in Table 1., sheep herds have a downward trend since 2017, due to irrational exploitation of permanent grassland areas, overloading of pastures and lack of maintenance (Sabău NC, 1999, Berchez O., 2020)

CONCLUSIONS

Sheep are the most intensely exploited mammals in the Miersig Plain. The pedoclimatic conditions in the Miersigului Plain are favorable for sheep breeding.

The main localities with which sheep farms have developed are: Gepis, Husasău de Tinca and Gurbediu.

The evolution of sheep herds is relatively ascending during the last six years, for small farms. For farms with more animals, the year 2020 had a negative impact on livestock. An influential factor is the quality of the meadows. In order to support sheep breeding, it is necessary to increase the production of pastures.

From an ecological point of view, a rational and controlled exploitation of these meadows, leads to an increase of the biodiversity of the vegetal carpet and to the protection of the soil degradation, and the organization of a rational grazing creates a pleasant image of neat appearance of the meadows.

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