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PEDOLOGICAL CHARACTERIZATION OF PASTURES FROM ILIA AREA, HUNEDOARA COUNTY

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Abstract: The purpose of the work is the accumulation of knowledge regarding the characteristics of the natural environment and its zonal peculiarities, as elements that define the structure of the land fund and the state of soil quality, in order to establish the ecological specificity of land productivity and the possible pressures on them. The importance of the research theme derives from the fact that the properties of the land are extremely differentiated in the territory, due to the variation of environmental factors and conditions. Meadows are an essential element of sustainable agriculture systems represented by: providing fodder, animal welfare, soil quality and optimal use of poorly productive land, especially for the production of biomass, a renewable energy source. Due to the fact that meadows are located in very varied seasonal conditions occupying, as a rule, surfaces unsuitable for other crops, either due to the deficient physico-chemical properties of the soil, or due to the orography of the land or other causes, their productivity is closely related to both environmental conditions in which they are found, as well as human and animal activities. The knowledge of the natural conditions and especially of the ecological potential of the land for the main categories of use and crops is of particular importance in carrying out the qualitative evaluation of the land, based on the assessment notes and the analysis of the limiting factors, being able to constitute an effective tool for the choice the set of ameliorative measures that favor an efficient use of land resources within the researched space.

Introduction

The soil has a particular importance not only in agriculture but in general, it is one of the resources necessary for the existence and productive activities of mankind.

As a means of production in agriculture, the soil differs from other means of production, being limited in the geographical space and requiring a rational use.

Meadows are an essential element of sustainable agriculture systems represented by: providing fodder, animal welfare, soil quality and optimal use of poorly productive land, especially for the production of biomass, a renewable energy source.

Material and method

To achieve the proposed objectives, the territorial administrative unit was identified and characterized from an ecopedological point of view; relief conditions, hydrography and hydrology, vegetation elements, soil types and subtypes and their morphological, chemical, physical and hydrophysical properties were identified.

The research of the ecopedological conditions was done in accordance with "Methodology for Elaboration of Pedological Studies" (vol I, II, III) developed by ICPA Bucharest in 1987, supplemented with specific elements from the Romanian System of Soil Taxonomy.

Results and discussions

On the lands covered with meadows on the Ilia cadastral territory, 48 soil units were delimited and characterized, according to the "Roman Soil Taxonomy System", Bucharest, 2012 edition, being grouped into 5 soil classes: Protisols, Cambisols, Luvisols, Hidrisols, Antisols.

The reaction of the soils on the meadows of Ilia

Specification	Moderately acidic pH 5.1-5.8	Weakly acidic pH 5.9-6.8	Neutral pH 6.9 - 7.2	Weak alkaline pH 7.3 - 8.4
Area Ha	277.96	255.21	9.30	82.97
%	44.44	40.80	1.49	13.27

Humus and nitrogen content on the lands occupied with meadows
in the town of Ilia

Content	Humus			Nitrogen index	
	Very small	Little	Middle	Weak	Middle
Area Ha	114.44	511.00	-	611.05	14.39
%	18.30	81.70	-	97.70	2.30

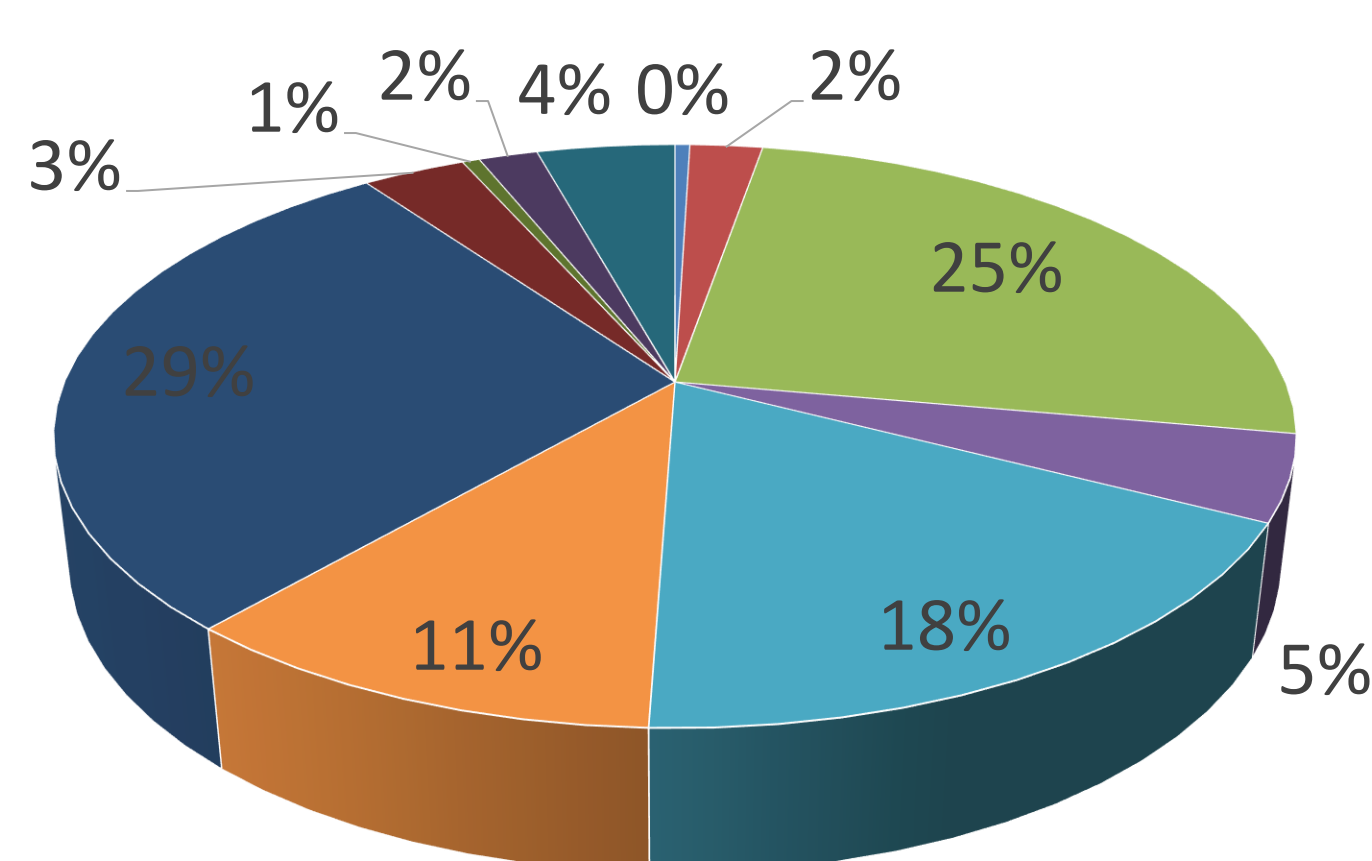
The content of phosphorus and potassium on the soils covered with
meadows in the locality of Ilia

Content	Phosphorus			Potassium			
	Very small	Little	Middle	Extremely small	Very small	Little	Middle
Area Ha	83.23	521.79	20.42	13.21	143.07	448.74	20.42
%	13.31	83.43	3.26	2.11	22.88	71.75	3.26

Conclusions

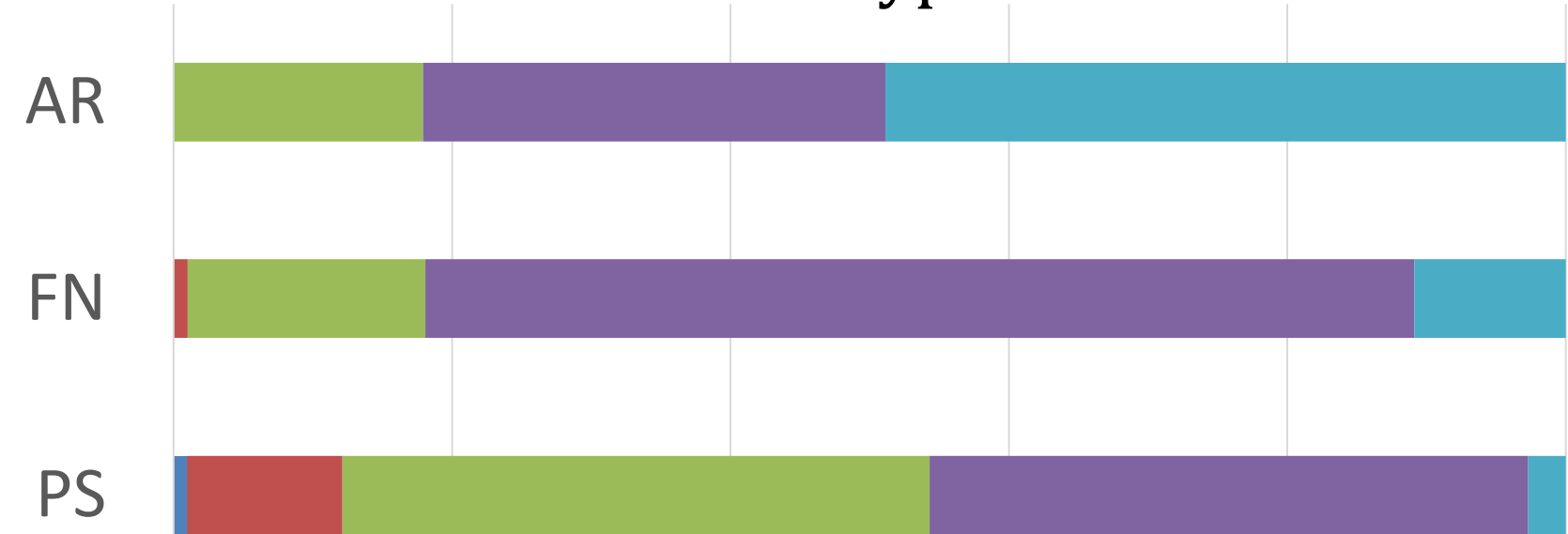
The natural conditions of the researched area are generally favorable for the development of the agri-food sector, in all aspects, there is an old tradition of cultivating cereals and their exploitation, especially through raising animals.

In this sense, the knowledge of the natural conditions and especially of the ecological potential of the land for the main categories of use and crops is of particular importance in carrying out the qualitative assessment of the land.



■ LS ■ RS ■ AL ■ FZ ■ EC ■ EL ■ LV ■ PE ■ SG ■ GS ■ AT

Soil types from Ilia



0% 20% 40% 60% 80% 100%

■ Class I ■ Class II ■ Class III ■ Class IV ■ Class V

Quality classes for the use categories pasture, hayfield, arable

The limiting factors that affect the production capacity of the pastures belonging to UAT Ilia are represented by soil reaction, excess of surface and phreatic moisture, surface and depth erosion, landslides, the slope of the land and the thickness of the soil layer.