



CONSERVATION OF SOIL RESOURCES IN ARCHIS LOCALITY, ARAD COUNTY

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Abstract: The purpose of the work is represented by the identification and characterization of soil and land units in the locality of Archis, Arad county. This was achieved through the bibliographic study of the soils in the researched area, by making observations in the field, and collecting and analyzing soil samples from the field. Following the identification and characterization of the soils in the Archis locality, the classes of favorability and suitability of the soils were established for the main categories of use and species of cultivated plants. Simultaneously, the limiting factors that influence the growth and development of cultivated plants, and their intensity and the measures to prevent and limit their effect on agricultural production were identified. The area taken into account and its zonal peculiarities, determining a great diversity of ecological conditions, generated by the variability of the factors that compete to create the environment in which plants grow and achieve production. It is presented in more detail, the composition of the soil cover, some restrictive characteristics of the quality and suitability of land for certain agricultural uses, with requirements and specific improvement measures and the favorability of arable land for the main cultivated plants. Considering these, the paper presents a series of data prepared on the basis of the existing pedological information in the OSPA archive.

• Introduction

The quality of the land (soil), in the sense of the Romanian school of pedology, represents the totality of the essential properties and particularities (defined from a topographical, geological, geomorphological, pedological, agrochemical, etc.) point of view by which a certain portion of land on the Earth's surface is it differs from the others, being better or worse.

In FAO terminology, "land quality" is defined as a complex of factors that influence the sustainability of land for the proposed purposes, the term "land" referring to: soils, landforms, climate, hydrology, vegetation and fauna, also including land improvements and other forms of management.

• Material and method

The cadastral territory with an area of 6807 ha, of which 2294 ha (33.70%) is agricultural land, 4329 ha (63.60%) being occupied by forests (tab. 6.76) is located in the north of the Sebiş Depression, at the foot of the Codru Mountains-Moma, with varied landforms and a developed hydrographic network.

In close correlation with the variety of geomorphological factors that determine the existence of diversified relief units, the geolithological ones, which led to a great diversity of parental materials, climatic or hydrological ones, as well as various anthropic interventions.

• Results and discussions

Archis commune is located in the northern part of Arad county, at a distance of 86 km from Arad and 138 km from Timișoara, being formed by the villages of Archis (residence), Bârzești, Groșeni and Nermiș.

Within the researched space, the current edaphic cover is represented by: luvisols, alluviosols, preluvisols and anthrosols, which reflect, through their geobiochemical and morphological properties, the main defining and determining characteristics for the growth and fruiting of the main cultivated plants, expressed through credit notes, based on which the lands were classified into quality classes, from I to V for the arable surface of 1185 ha, respectively the surface with pastures of 840 ha.

Quality classes for ARABLE and PASTURE use category (ha)

Surface	2025	Classa I (81-100 pct.) ha	Classa a II-a (61-80 pct.) ha	Classa a III-a (41-60 pct.) ha	Classa a IV-a (21-40 pct.) ha	Classa a V-a (1-20 pct.) ha
Arable	1185	-	110	241	364	470
Pasture	840	7	131	395	245	62

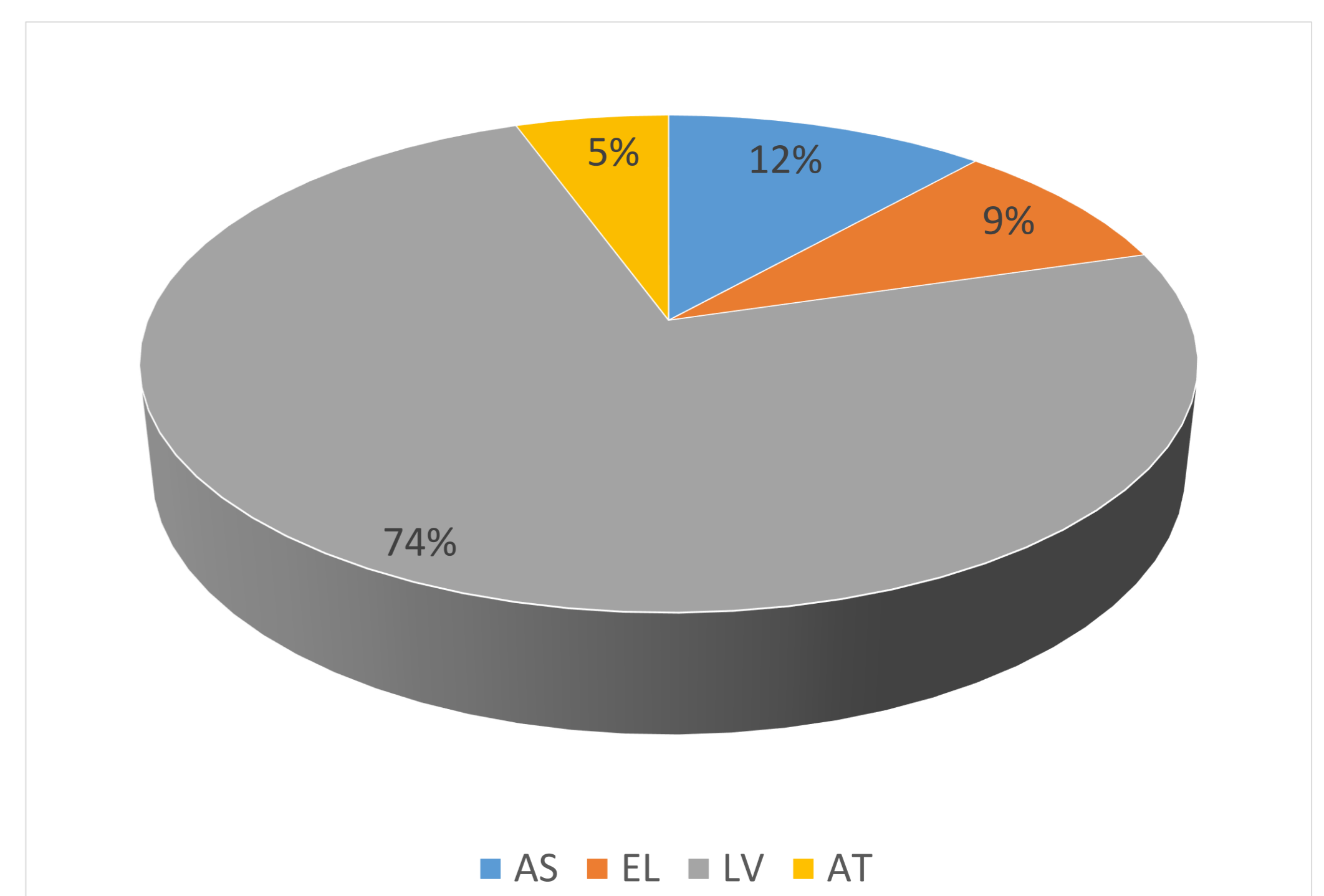
• Conclusions

The territory of Archis commune falls within the temperate continental climate zone, with slight Mediterranean influences.

Under the conditions of a good natural ecological potential, at first glance, the soil quality situation is still below expectations, since most of them are affected by the existence of one or more limiting or restrictive factors.

The limiting factors in this area mainly refer to limitations due to excess stagnant and phreatic moisture, soil acidification and the degree of compaction.

Soil types in Archis locality, Arad county



The characteristic limiting factors of the soils belonging to the locality of Archis

Limiting factors	LOW	Moderate	Strong
excess surface moisture	140	810	99
excess phreatic moisture	120	110	-
settlement	100	300	1594
acidified	677	911	450