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TPOLOGY OF FAMILY FARMING SYSTEMS WITHIN GHILAD COMMUNE, TIMIS COUNTY

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Abstract: Fragmentation of agricultural land represents a significant challenge for agriculture in Romania, with direct effects on productivity and land exploitation efficiency, thus requiring the practice of an extensive farming system and making it impossible to implement an intensive farming system. Therefore, this major division of agricultural land leads to several disadvantages such as higher costs for farmers (especially in terms of transportation, the need for a larger number of smaller machinery, and an increase in the number of employees required), limited mechanization, and inefficient distribution of fertilizers, pesticides, and irrigation water. This paper aims to analyze the degree of fragmentation of agricultural land in the Ghilad locality based on data obtained directly from local farmers as well as from my own farm. Thus, after studying the land declarations over several years between 2014-2024, from three agricultural farms in the commune, I compiled tables and graphs that summarize the collected data in order to highlight the issue faced by farmers. Therefore, I observed that the agricultural parcel areas range from a minimum of 0.25 hectares (cultivated with dry beans) to a maximum of 23.58 hectares of communal permanent pasture used individually. However, for field crops, the maximum area is 11.77 hectares.

Keywords: cropping system, typology, farming, soil

Introduction

Ghilad is a commune in Timis County, Romania, consisting of the villages Gad and Ghilad. From the point of view of the main landform, Ghilad commune falls into the category of Plain: low plain with alluvial-proluvial deposits in the Timiș – Bega – Bârzava sector. The low plains in this floodplain sector are relatively recent, drained by rivers with a permanent regime: Bega, Timiș, Bârzava, Moravița and represent a typical Holocene digression region in which both the local and general subsidences of the lower course of the Tisza river determined the covering of the loessoid deposits and older alluvium with more recent alluvial materials, on the surface of which the soils are in reduced stages of evolution. The general inclination of the plain is from E to W from 180m to 90m (Făget-Timișoara).

The Ghilad topoclimatic type is at the interference of continental air masses, of western and eastern origin, suffering in addition to the invasion of warm, southern air masses. The frequency with which these types of air masses influence the thermal and rainfall regime gives the area a temperate climate, with a moderate degree of continentalism, with more or less accentuated sub-Mediterranean influences. The multiannual average temperature at the Timisoara station between 1887-2007 registers values of 10.9 °C. The average annual temperature of the soil (5-10 cm deep) in the cold period drops below 0 °C only between December 25 and January 25, when values of 2-4 °C are achieved in the air.

Material and method

In order to find out what agricultural system is practiced in the area of Ghilad, Timiș County, we gathered information from farmers, public institutions, but also from locals.

Results and discussions

In the following, we will present the structure of some agricultural holdings in Ghilad commune in order to highlight the area of the plots and the structure of the crops for the period 2014 – 2024.

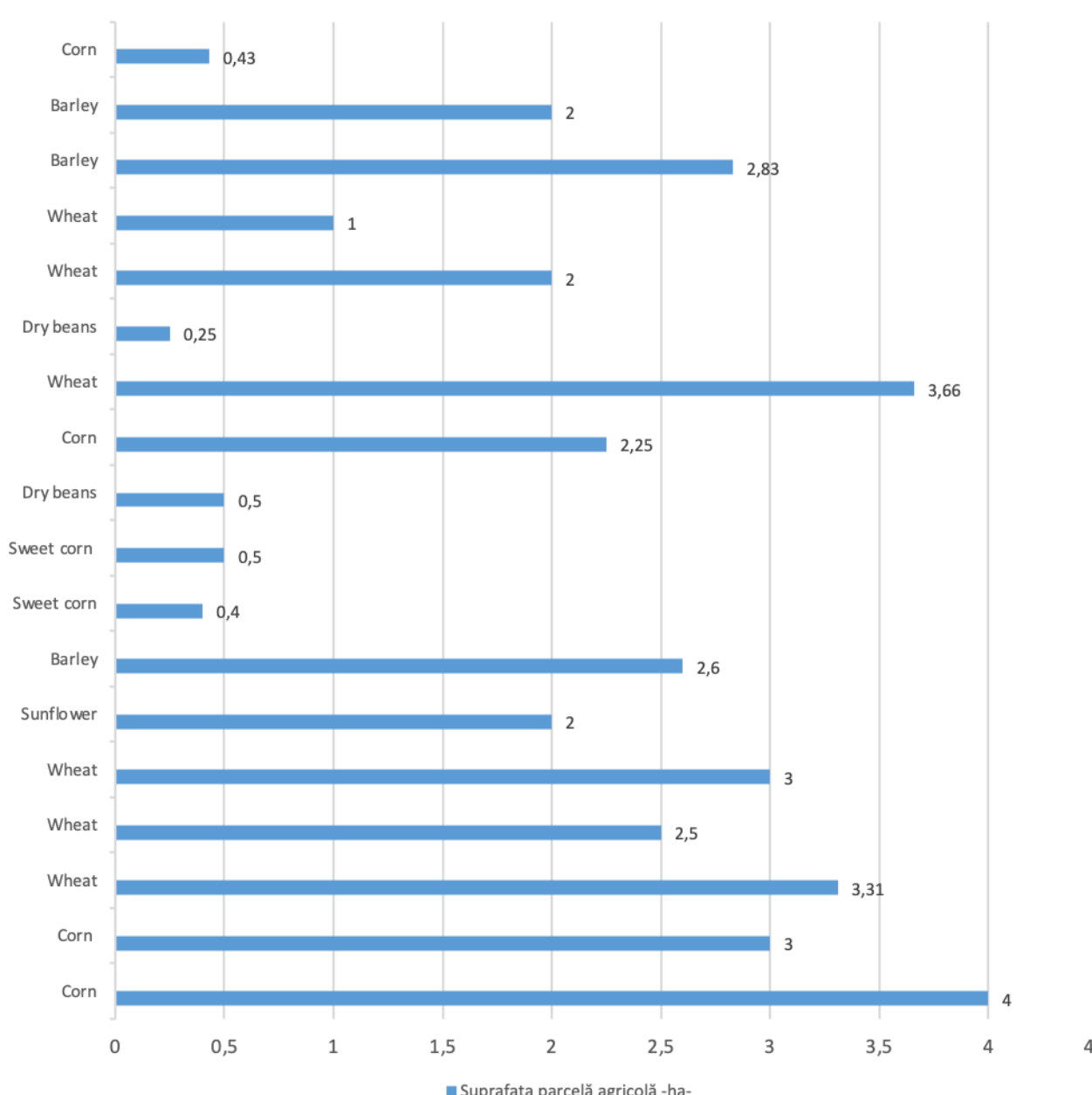


Fig. 1 Area of the agricultural holding Farmer ID: R0004568707 – Year 2014

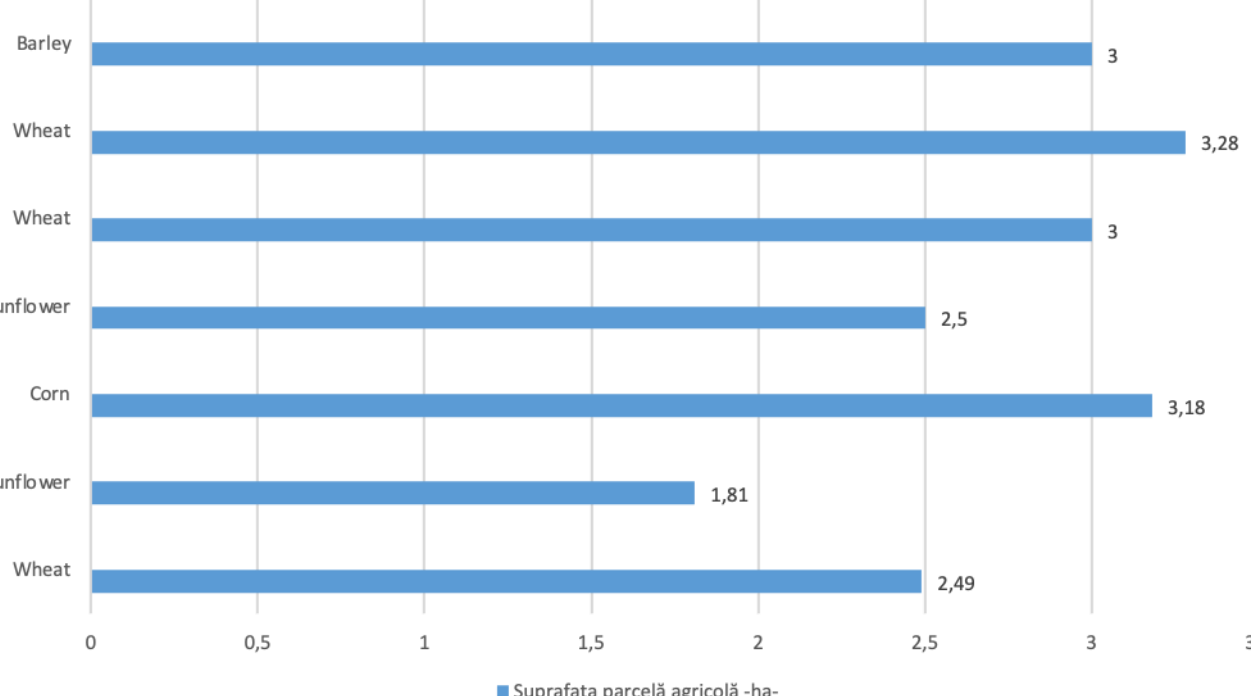


Fig. 4 Area of the agricultural holding ID Farmer: R0249007817 – Year 2017

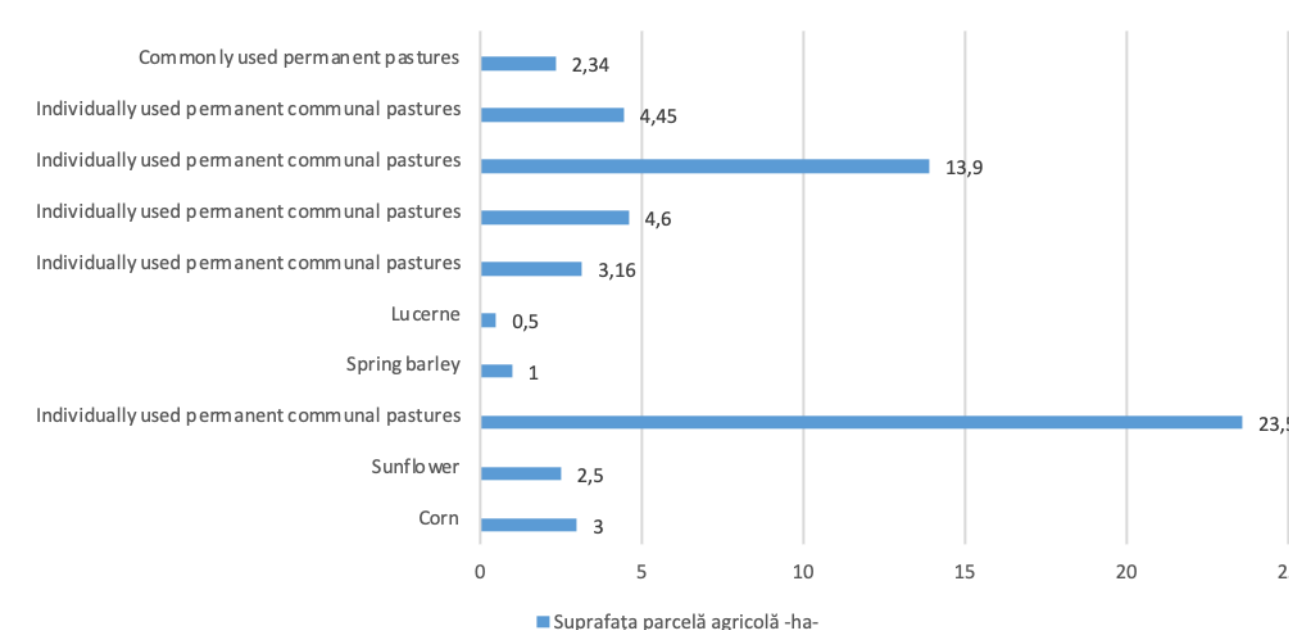


Fig. 7 Area of the agricultural holding ID Farmer: R0279828247 – Year 2018

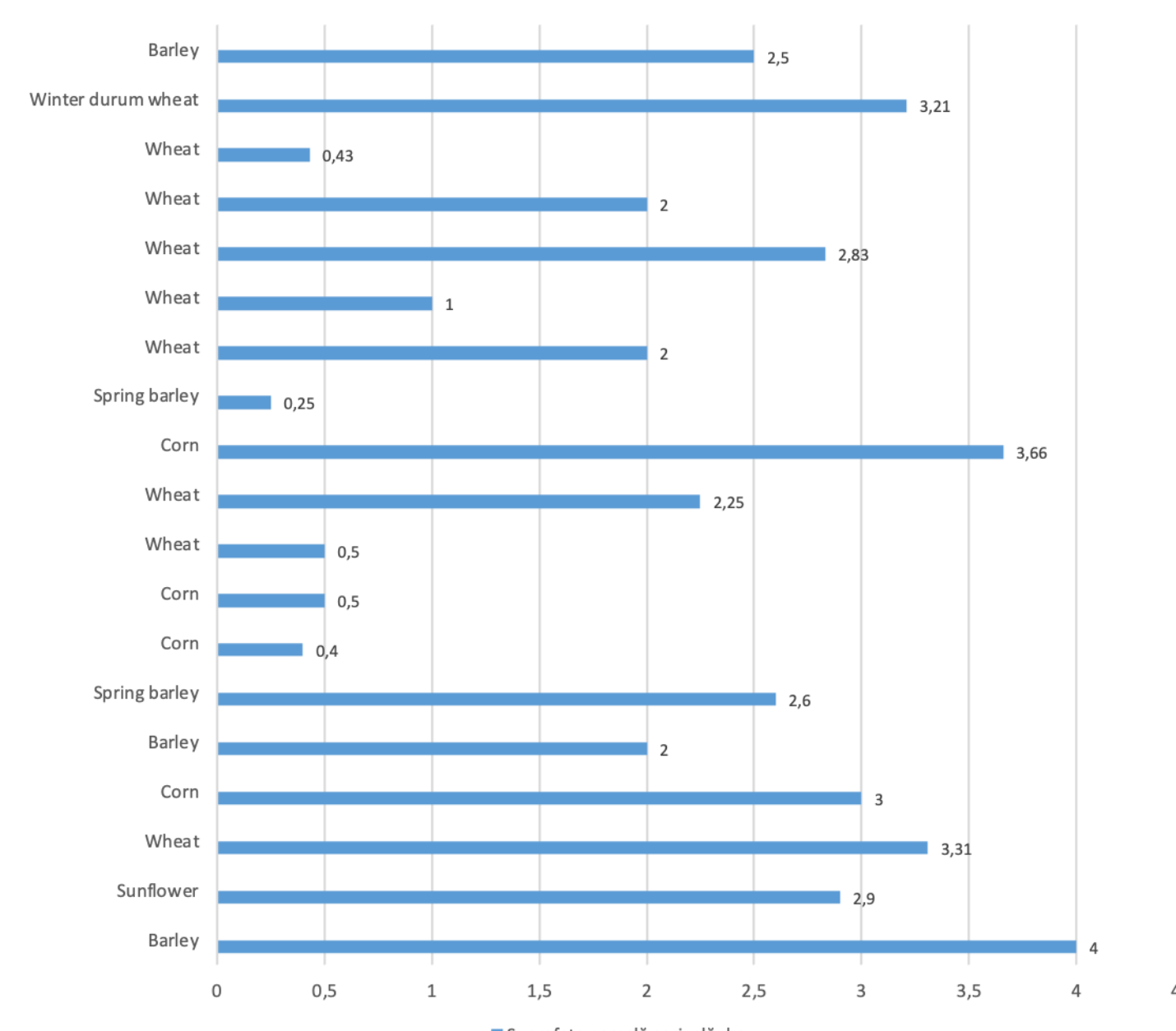


Fig. 2 Area of the agricultural holding Farmer ID: R0004568707 – Year 2017

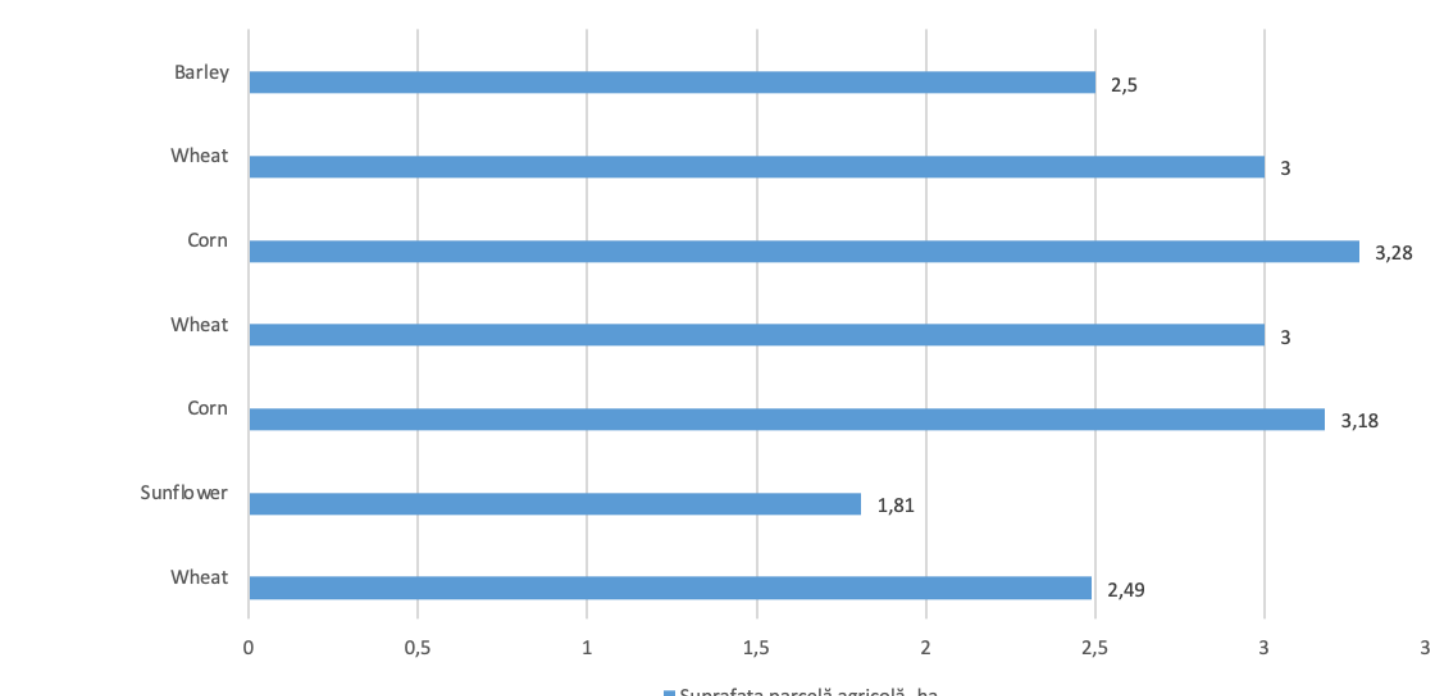


Fig. 5 Area of the agricultural holding ID Farmer: R0249007817 – Year 2020

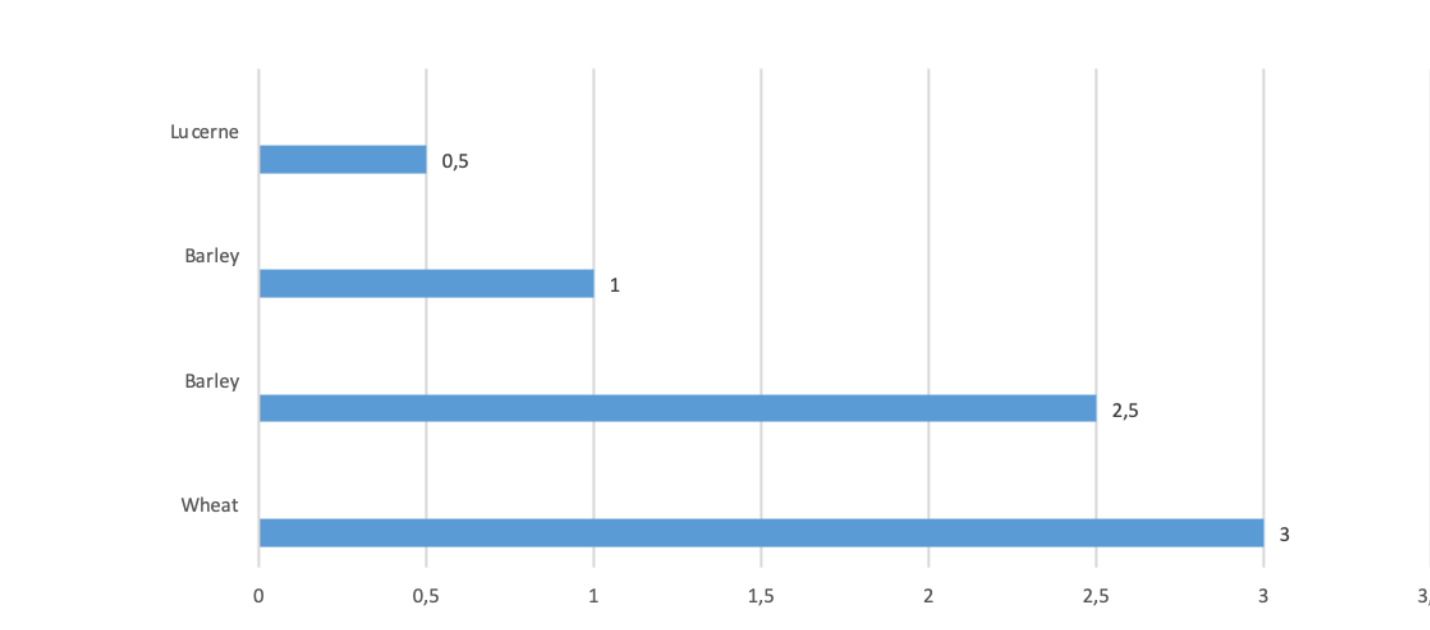


Fig. 8 Area of the agricultural holding ID Farmer: R0279828247 – Year 2020

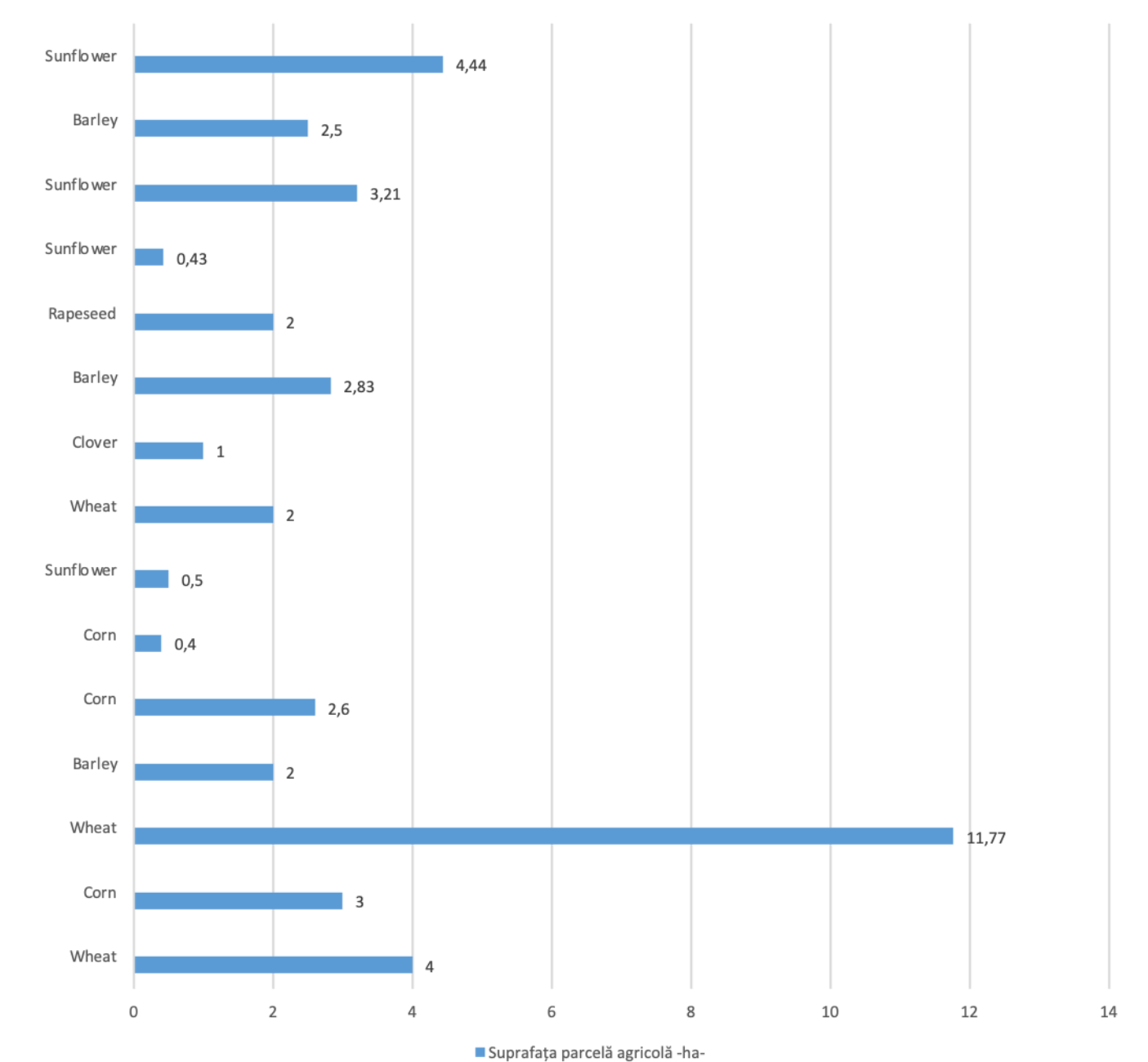


Fig. 3 Area of the agricultural holding ID Farmer: R0004568707 – Year 2024

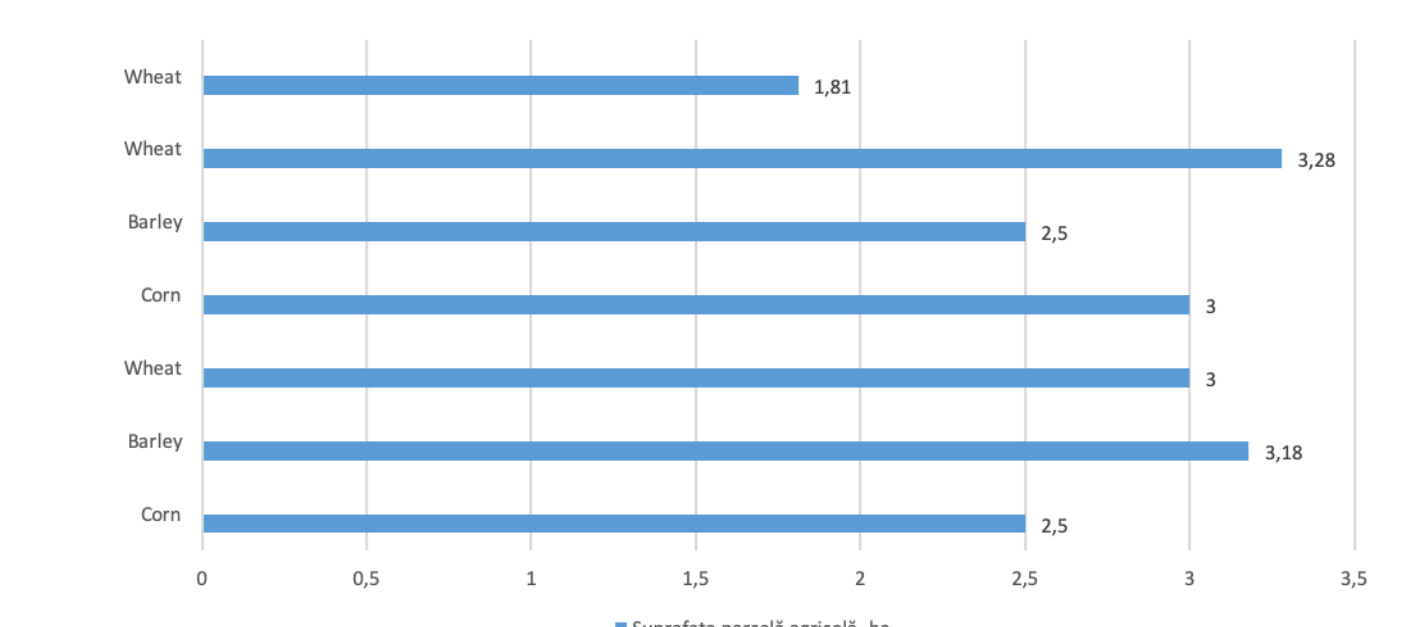


Fig. 6 Area of the agricultural holding ID Farmer: R0249007817 – Year 2023

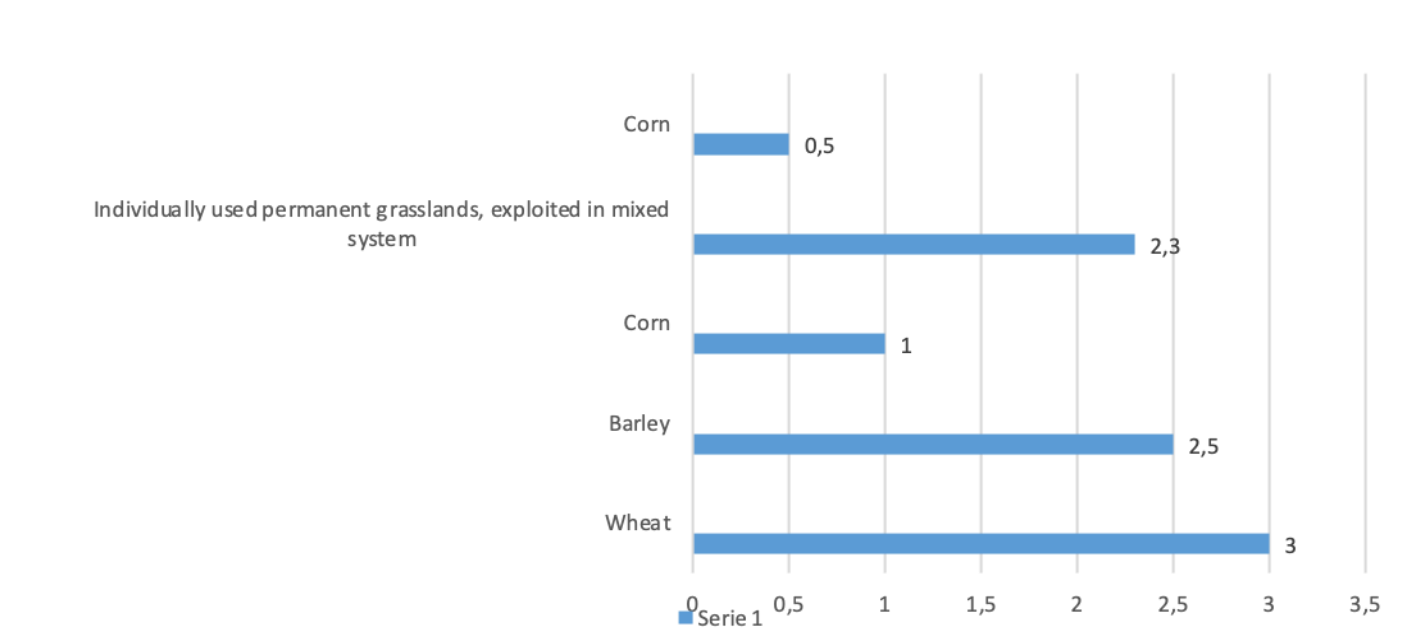


Fig. 9 Area of the agricultural holding ID Farmer: R0279828247 – Year 2022

Conclusions

1. The study presents 3 family farms studied during the years 2014 – 2024. The average size of the farm is approximately 30.10 ha.
2. The main crops on the farms are: wheat, barley, corn and sunflower
3. On small areas, fodder plants, rapeseed, soybeans, triticales and legumes are grown.
4. The structure of the crops is very fragmented, the smallest area is 0.25 ha, and the largest is 23.58 ha of communal permanent grassland used individually, but as far as field crops are concerned, this interval stops at the maximum of 11.77 ha.
5. This makes practicing an intensive farming system impossible, as tillage has to be carried out with low-performance machinery.
6. The association of farmers and the consolidation of land would be a solution for making the agricultural system more efficient.