

## AGRICULTURAL LAND AND ACTIVITIES IN MUREȘ COUNTY

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**Abstract:** This study aims to analyse one of the most important land usages, that of agricultural land, which, in 2016, held 61.2% of the entire territory of Mureș County. Of all the land uses, the most extensive are arable lands (220,797 hectares), followed by pastures and hayfields (183,519 hectares), while orchards and vineyards occupied only 6,815 hectares. In terms of crops, grain is the most widespread (corn, wheat and rye, barley, oats), followed by fodder plants (alfa alfa, clover and corn), industrial plants (sunflower, canola, soybean, sugar beet), vegetables (tomato, cabbage, onion, edible root vegetables, pepper, cucumber), as well as potatoes and melons.

**Key words:** arable land, grain, horticulture, orchards and vineyards

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### INTRODUCTION

This paper aims to tackle one of the main economic sectors of Mureș county, *agriculture*, the primary provider of produce for the population and raw materials for the food and light industry. The above mentioned objective was preceded by an extensive analysis of a set of secondary sector components, published in 2018 and 2019 (see references). We also want emphasize that the paper was presented in front of the specialists attending the scientific conference dedicated to 100 years since the founding of the Geographic School of Cluj (*Geographia Napocensis 100*), section Social-economic Resources and Sustainable development.

### METHODOLOGICAL ASPECTS

Based on the official statistical data provided by Mureș Department of Statistics and Mureș County Agricultural Office, I created spatial systematizations and interpretations, which were later converted into graphical and cartographical media, thus facilitating the understanding process of the territorial reality. Mureș County Statistics Book for 2016 also points out that the data series

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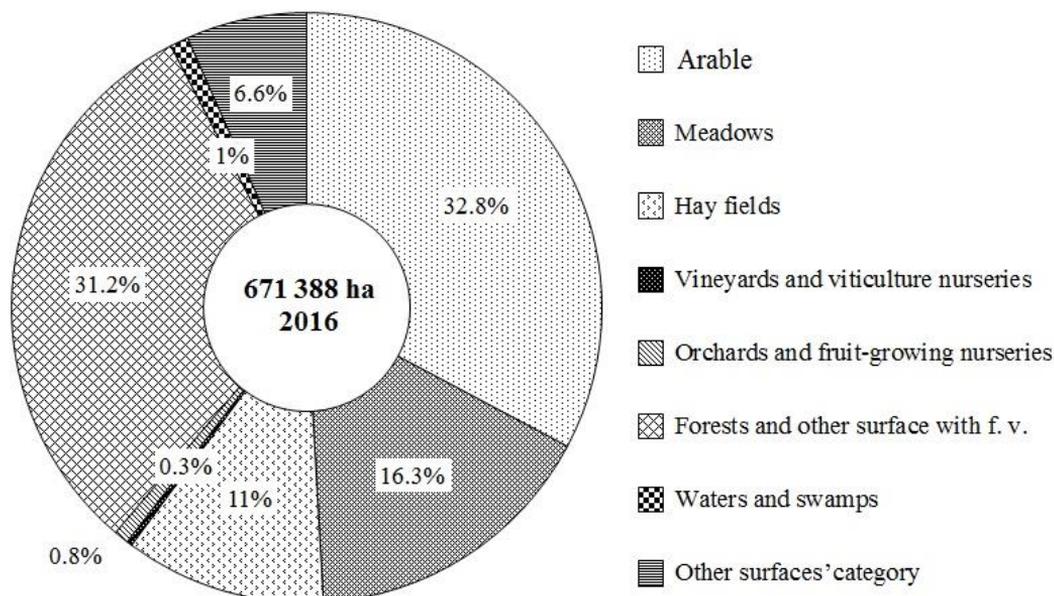
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regarding the agricultural surfaces based on usage remain „stuck” in 2014, until the cadaster of Romania is completed. Moreover, we consulted several studies which dealt with similar topics as our own (Cetină, 1981; Cocean et al., 2011; Cocean et al., 2013; Herman 2009a, b, 2010; Nimigeanu, 1996; Raboca et al., 2001; Păcurar, 2006; Pop, 1974; Șandru, 1978; Popovici & Mihail, 1980; Șoneriu & Mac, 1973; Tofan, 2013, 2018, 2019; etc.).

### GENERAL STRUCTURE OF FIELDS

In 2016, the total surface area of Mureș County was 671,388 hectares, out of which 411,131 hectares (61.2%) are agricultural land, while 31.2% (209,451 hectares) are forests, and water 1% (6,388 hectares). The “*other surface*” category 6.6% (44,418 hectares) includes land occupied by buildings (3%, 19,921 hectares), communications routes (1.6%, 10,806 hectares) and degraded and nonproductive land (2%, 13,691 hectares). Agricultural land and activities are influenced by terrain, climate and soil, with *arable land* extending for more that a quarter of the entire county’s surface area 32.8% (220,797 hectares). *Pastures* reach 16.3% (109,257 hectares), *hayfields* 11% (74,262 hectares), *orchards and nurseries* (0.8%, 5,151 hectares). *Vineyards and vine nurseries* (0.3%, 1,664 hectares) are modestly represented, being concentrated mostly in the hinterland of Reghin and the Târnave Corridor.

One may conclude that arable land holds more that half (53.7%) of the entire agricultural land in the county. Thusly, agricultural activities focus mostly on growing grain and fodder, which in turn stimulates the animal husbandry sector, mostly birds and swine.



**Figure 1.** Mureș County. General land structure (agricultural, forests and other surfaces with forestry vegetation, waters and swamps and “other surfaces” category) and structure of agricultural fields (arable, pastures and hayfields, vineyards and viticulture nurseries, orchards and fruit-growing nurseries) in 2016 (f. v. = forestry vegetation)

### ARABLE LAND AND PLANTS CULTURE

Compared to the average percentage registered at county level (32.8%, in 2016), and under the direct orographic influence, most arable lands are located in the western part of the county, in

the rural areas of Mureș Plain (Sărmaș Plain): Valea Largă (75.7%), Mădăraș (70.2%), Band (69.5%), Miheșu de Câmpie (67.2%), Grebenișu de Câmpie (65.5%), Pogăceaua (64.3%), Șincai and Șăulia (64.2%), Râciu și Sânger (63.3%), Zau de Câmpie (63%) and Pănet (60.5%), and the sole agricultural town of the Transylvanian Plain, Sărmașu, where arable land recorded values of 61%. Percentages above 60% were also found in two other communes (Sântana de Mureș, 71% and Cucerdea, 60.6%), in an urban area located in Mureș Valley (Iernut, 65%), as well as in Gănești Commune (60.6%) - Târnava Mică Valley. Fewer arable lands (percentages below 10%) are a characteristic of settlements located near or in Căliman and Gurghiu Mountains, for instance in Mureș Defile (Răstolița, 0.2%; Lunca Bradului, 0.3%; Stânceni, 1.1% and Deda, 9.5%); as well as Reghin Hills (Vătava, 4.1%); Valea Gurghiului (Ibănești, 2.1%) and the marginal areas of Sângeorgiu de Pădure-Sovata Hills (Sovata, 6.6% and Chibed, 9.8%).

In 2016, over half of the 220,797 hectares of arable land in the county were cultivated with *grain* (119,701 hectares), followed by *fodder plants* (48,412 hectares), *technical plants* (17,447 hectares) and *vegetables, potatoes and melons* (12,821 hectares). The remaining 22,416 hectares were used for cultivating *strawberries* (34 hectares), *flowers and ornamental plants* (52 hectares), while 22,330 hectares are categorised as unused farmland.

**a) Grain growing** extends on 54.2% of the county's arable land, mostly in lower areas, known as one of the bread baskets of the Transylvanian Depression (Pop, 2012, p. 185). Gentle hills are highly suitable for said crop, especially corn, 32.7%, followed by wheat and rye, 14%, barley, 3.7%, oats, 2.6% and other cereals (triticale, millet, sorghum), with 1.2%.

*Corn* is the apex crop (32.7% of arable farmland), covering 72,231 hectares (2016). The average yield in Mureș County is roughly 4,500 kg/hectare. The largest surface areas cultivated with corn are in Mureș Plain (Band, 3,447 hectares; Pănet, 2,184 hectares; Zau de Câmpie, 2,039 hectares; Sânger, 2,040 hectares; Sărmașu, 1,987 hectares; Valea Largă, 1,458 hectares and Miheșu de Câmpie, 1,056 hectares), in Mureș Valley (Iernut, 3,111 hectares; Chețani, 1,633 hectares; Luduș, 1,560 hectares; Sânpaul, 1,132 hectares; Ogra, 1,090 hectares and Ernei, 1,051 hectares), as well as in lower basins of Niraj and Târnava Mică valleys (Bălăușeri, 1,380 hectares; Adămuș, 1,373 hectares; Ațintiș, 1,253 hectares; Acățari, 1,224 hectares; Bahnea, 1,033 hectares and Bichiș, 1,007 hectares). This is due to the presence of mollisols and clay soils, chemically and biologically suitable for such a plant, but only when agro-technical improvements are introduced (Pop, 2007, p. 180). At higher altitudes, due to the high extent of technical plants and improper weather conditions, corn cultivated farmland decreases considerably (below 50 hectares), in communes such as Chibed, Corunca, Eremitu, Stânceni and Lunca Bradului.

To increase the average production per hectare (Cetină, 1981, p.159), the authorities and private entrepreneurs introduced several hybrids, such as the ones developed by *Pioneer Optimum AQUAmax* (P9241, P9415, P9757, P9486, P9903), with a 114-124 day vegetation period, leading to more than 10,000 kg/hectare in Gănești, Glodeni, Acățari, etc.

*Grain* (30,463 hectares in 2016) has favourable development conditions especially in the lower areas of the county, where arable farmland exceeds 50% (Band, Sărmașu, Râciu, Sânpetru de Câmpie, Pogăceaua, Pănet, Miheșu de Câmpie, Iclânzul, Iernut, Luduș, Ungheni, Ernei etc), with average yields of roughly 4,000 kg/hectare. According to Mureș Agricultural and Rural Development Office, 2017 saw the highest production in the entire history of the county, 5,810 kg/hectare. In the mountainous area surrounding Mureș Defile, such crop is missing. However, low rentability caused by poor mechanization, lack of workforce and the agricultural market instability provoked a decrease by more than half in the cultivated farmland between 1990 and 2016. The main types of wheat found in Mureș are: *Andrada*, *Apache*, *Apullum*, *Ardeal 1*, *Arieșan*, *Boema 1*, *Glosa KG Kungloria*, *Renan*, *Acteur*, *Bitop*, *Exotic*, *Midas*, *Othectareslom*, *Kristina*, etc.

Almost the entire surface area cultivated with autumn type wheat, while hard wheat (*Triticum durum*) is cultivated in experimental patches (57 hectares). In higher areas, with poorer pedoclimatic conditions, people grow rye (Raboca et al., 2001, p. 41). However, said crop has

considerably lost surface area (Popovici & Mihectaresil, 1980, p. 176), reaching 193 hectares (2016), while the average yield being 2400 kg/hectare, mostly on private farmland.

Furthermore, many cultivate a hybrid between wheat and rye (*triticale*), used as animal fodder, beer malt and in alcohol production. A major advantage is its resistance to diseases and harsher climatic conditions (it does not require herbicides), while seeds open much sooner than other plants (Cocean et al., 2013, p. 206). Therefore, in 2016, there were 2,446 hectares of autumn triticale and 268 hectares of spring triticale, with an average county yield of roughly 2,500 kg/hectare. The largest farmland cultivated with triticale were recorded in Sângeorgiu de Pădure Hills (Miercurea Nirajului, 200 hectares, Bereni, 160 hectares and Sângeorgiu de Pădure, 104 hectares).

*Barley* was modestly represented in 2016, extending on 8,204 hectares (3.7%) of the total arable land of the county (220,797 hectares). It is primarily used as animal fodder and in beer making. It is mostly cultivated in Sărmașului Plain (Band, Iclânzul, Miheșu de Câmpie, Grebenișu de Câmpie), Mureș Valley (Gornești, Ogra, Luduș) as well as in the hills and valleys of Târnave (Băgaciu, Ațintiș), From 2006 to 2016, average county production increased from 2,236 kg/hectare to 3,387 kg/hectare.

Oats is mostly found in the cooler and wet areas of the eastern part of the county (Miercurea Nirajului, 395 hectares; Măgherani, 200 hectares; Hodac, 170 hectares; Suseni, 166 hectares; Breaza, 150 hectares; Ațintiș, 118 hectares, etc), where soil fertility is lower. In 2016 it occupied 2.6% (5,782 hectares) of the total arable farmland and yielded 2,437 kg/hectare. Large surfaces cultivated with oats can be found in lower areas, as said lands may find a superior usage as bearers of other plants (Lunca, 541 hectares; Tăureni, 176 hectares; Râciu, 150 hectares; Cozma and Iclânzul, 120 hectares). Production was around 2,000 kg/hectares and was used as horse fodder, but also as food for younglings and diabetics - flower, cereal and semolina.

Besides said („main”) grain, other, secondary, grain crops are cultivated (Păcurar, 2006, p. 58), such as *sorghum* (82 hectares, out of which 60 hectares in Sântana de Mureș) and millet (32 hectares out of which 25 hectares in Reghin).

**b) Fodder** found optimal growth conditions in lower areas, but also at higher altitudes, and play a crucial role in the animal husbandry sector. In 2016, fodder plants claimed 22% (48,412 hectares) of the county's arable land, mostly *old and new perennial plants* (16.8%), followed by *hay and green mass plants*, and *silo plants*, both with 2.5%. The most widespread perennial plants in the county are *alfa-alfa and clover*. The former increased in surface area in the last two decades due to the ever increasing need for fodder, but also due to its nutritional value, from 9,231 hectares (1990) to 18,890 hectares (2016). According to statistical data, the most extended areas were recorded in Ceuașu de Câmpie (951 hectares, 24.8% of the commune's arable land), Râciu (946 hectares, 20.3%), Sărmașu (715 hectares, 15.4%) and Band (695 hectares, 11.1%).

Clover, more resilient to lower temperatures, but requiring a substantial amount of rainfall, lost almost half of its surface area (only 3,559 hectares in 2016), with cloverfields around Band, 420 hectares (largest surface in the county), as well as Ernei, Glodeni, Miercurea Nirajului, Gălești, Batoș, Acățari, etc., with areas measuring approximately 100-200 hectares. Other perennial plants cover 14668 hectares, and are present in 83 administrative-territorial units, mostly in the communes of Hodoșa (830 hectares), Șincai (800 hectares) and Sovata (675 hectares).

Yearly hay and green mass plants cover 5,710 hectares, with oat, rye, meslin, fodder peas, etc., found predominantly in the Transylvanian Plain (Glodeni, Fărăgău, Șincai, Sărmașu, Sânpetru de Câmpie, etc) and the submountain depressions (Miercurea Nirajului, Eremitu, Bereni, etc).

Silo plants (5,585 hectares) are dominated (98%) by silo corn (5,461 hectares), while *root fodder plants* (fodder beet and courgette) occupy 124 hectares.

**c) Technical plants** occupy the third largest agricultural area (17,447 hectares, 8% of the cultivated arable land, in 2016), with three groups: *oil plants* (sunflower, 5,244 hectares; rapeseed, 4,974 hectares, and soybean, 4,368 hectares), *other industrial plants* (sugar beet, 2,299 hectares, millet, 204 hectares, tobacco, 98 hectares, sorghum, 88 hectares, and energy willow, 36 hectares) and

*medicinal and aromatic plants*, with 136 hectares. In the 1990s, large areas (3,494 hectares) were covered with textile plants. However, hemp and flaxseed are no longer cultivated.

*Sunflower*, with an average temperature of 8<sup>0</sup>C as its fruiting limit (Nimigeanu 1996, p. 198), covers large areas (100-300 hectares) in the western, warmer extremity of the county (Sârmașu, Band, Grebenișu de Câmpie, Miheșu de Câmpie, Ogra, Pogăceaua, Râciu, Sânpetru de Câmpie), as well as areas around: Târnăveni, Iernut, Luduș, Ungheni, Adămuș, Ibănești, Suplac, Viișoara, etc, with a total of 5,244 hectares (2.4% of the arable land, in 2016). Taking into account the ever increasing cooking oil of the population, Mureș County experienced an increase in sunflower yield from 556 kg/hectare in 1990 to 2,189 kg/hectare in 2016, mostly on privately owned land.

*Rapeseed* is increasingly used in the production of industrial products (mechanical lubricant, biofuel, cosmetics and pharmaceuticals), as well as in the food industry (extravirgin oil and margarine), and animal fodder (Geografia României, II, 1984, p. 343). Land covered by rapeseed crops increased from 303 hectares in 2007 to 4,974 hectares in 2016 (2.2% of the county's arable land). The largest extent – Mureș Valley (Iernut, 654 hectares; Sânpaul, 382 hectares; Ungheni, 371 hectares and Ogra, 315 hectares). Another extensively used oil plant is the *soybean*. In 2016, soybean registered a percentage of 2% in Mureș (4,368 hectares), with an average growth per hectare of over three times from 1990 to 2016 (2,010 kg/hectares in 2016). Important soybean production centres - Iernut, Bahnea, Râciu, Pogăceaua, Băgaci and Târnăveni.

*Sugar beet*, with 1% of the county arable land, is cultivated on large plots of land in the Transylvanian Plain (Band, Pogăceaua), Mureș Valley (Luduș area) and Târnave Plateau (Târnăveni, Daneș, Gănești), where pedoclimatic conditions are perfect for said crop. In order to reduce production costs (Șandru, 1978, p. 227), there were several large sugar processing units in Târgu-Mureș (*Sugar Beet Processing Enterprise*, rebranded *Zamur* after 1990) and Luduș (the former "*Zahărul*" *Luduș plant*, privatized in 2013 and sold to the French *Tereos Consortium*), with a processing capacity of 4,000 tonnes/day (Tofan & Niță, 2018, p. 50). In the last two decades, sugar beet production declined considerably (from 10,504 hectares in 1996 to 2,299 hectares in 2016), due to the introduction of the sugar quota, price liberalizations, and high fertilization costs. This contributed to the closure of many plants, among them the one located in Târgu-Mureș.

*Hops fields* are found solely on the southern exposure slopes of Târnava Mare Valley (area around Sighișoara), occupying 204 ha (Sighișoara 95 ha; Saschiz 60 ha and Daneș 49 ha). It is mostly used in beer making, and a small part in pharmaceuticals.



**Figure 2.** Millet growing in Târnava Mare Corridor, Daneș

*Tobacco* has experienced a steady decline over the years, caused by the shutdown of processing plants. This led to a reduction of acreage, from 1,159 ha in 1990, to 98 ha in 2016, the entire production being exported abroad. Two types are cultivated in the eastern part of the Transylvanian Plain (*Virginia*, with a medium concentration of nicotine, and *Havana*, for cigars and cigarillos) (Pop, 1974, p. 240).



**Figure 3.** Tobacco growing in Transylvanian plain, Sărmășel Gară

Last but not least, there are plots of land cultivated with *sorghum*, used for manufacturing brooms (88 ha), and *energy willow* (36 ha), used for making pellets.

The last group of technical plants is represented by medicinal and aromatic plants, grown on a surface area of 136 ha. However, the vast majority of plants are harvested from spontaneous flora, with some processing units functioning in Ibănești, Reghin and Sovata, which produce a multitude of tea products.

**d) Vegetables and potatoes** are crucial for man's nutrition needs, as well as for the entire food industry (Nimigeanu, 1996, p. 207). In 2016, the surface area cultivated with vegetables and potato reached 12,821 hectares (5.8% of the county's arable land), with emphasis on *vegetables* (3.2%), while potatoes 2.5%.

*Vegetable crops* enjoy the very best natural conditions, especially along the valleys and terraces of Mureș, Niraj and Târnave rivers, with wet alluvial soils, which can be effortlessly cultivated. The surface area covered with vegetables was 7,134 hectares in 2016, with just 10 hectares integrated in the intensive agricultural system (greenhouse). Most of the fresh produce are grown outside, in family farms, with a wide array of species, especially tomatoes, 1,246 ha; but also pepper, 560 ha and eggplant, 250 ha), *onion*, 1,032 ha and garlic, 313 ha), *white and red cabbage*, 1,209 ha, cauliflower, 115 ha), *root vegetables* with 1,016 ha (largest extent - carrot, 660 ha; followed by parsley, radish, parsnip, celery and red beet), pulse (seed beans, 112 ha; seed peas, 355 ha; pod beans, 317 ha and pod peas, 176 ha), *gourd* (cucumber, 465 ha, green melon, 92 ha, yellow melon 64 ha) and *leaf vegetables* (salad, spinach, 435 ha).

Mureș County contains three large vegetable growing regions, the first located in the Transylvanian Plain (Mureș Plain), and the second along the valleys of Târnava Mică and Niraj.

Two additional regions were identified – the submountain hills and depressions (Reghin Hills and Sângeorgiu de Pădure Hills) and Mureș Corridor.

*The Transylvanian Plain*, and especially its southern part (Mureș Plain), is highly diversified in terms of vegetable crops, mostly around Band, Grebenișu de Câmpie, Ceuașu de Câmpie and Râciu, where almost all previously mentioned vegetables are grown (carrot, parsley, celery, beet, onion, garlic, peas, cabbage, cauliflower, cucumber, tomato, pepper, eggplant).

*The Târnava Mică and Niraj Corridors* comprise of large plots of land cultivated with vegetables – around the town of Târnăveni (tomatoes, 50 hectares, 1.8% of the total arable land; cabbage, 27 hectares, 1.0%; root vegetables, 23 hectares, 0.8%; onion, 21 hectares, 0.8%; pepper, 15 hectares, 0.5 %; cauliflower, 8 hectares, 0.2% and eggplant 5 hectares, 0.2%), as well as some rural areas (Adămuș, Mica, Bahnea, Suplac, Crăciunești, Gheorghe Doja, Acățari, Gălești, Vărgata), with roughly the same range of crops.

The last two smaller areas include parts of *Reghin Hills* and *Sângeorgiu de Pădure Hills*, best known for the cultivation of the red onion of Buzău (also known as “water onion”), garlic, cabbage, tomatoes, cucumbers and peppers (around Reghin), in centres such as: Reghin, Idecu de Jos, Suseni, Brâncovenești, Hodac și Ibănești, Chibed, and Bălăușeri.

*Mureș Valley* is highly favourable for the cultivation of cabbage, beans, bulb vegetables and as well as tomatoes, eggplants and peppers, in areas such as Iernut, Luduș, Gornești, Cuci, Chețani and Bogata.

*Potato cultivation* (5,531 hectares, 2.5% of the arable land in 2016) finds proper conditions in hill areas, on gentle slopes, preferring a cool and damp climate. Potato fields can be found across the entirety of the county. It is represented almost exclusively by autumn potatoes (91.3%), while early and summer potatoes are mostly grown in lower areas and in the vicinity of urban areas, alongside vegetables (Șoneriu, Mac, 1973, p. 137). The largest autumn potato fields are found in the towns of Band (280 hectares), Bălăușeri (216 hectares), Ernei (185 hectares), Acățari (152 hectares), Luduș (140 hectares) and Ibănești (130 hectares). In terms of average potato yield per county, between 2006-2016, the largest quantity was recorded in 2016 (19,386 kg/hectare) and the lowest in 2012, only 9,724 kg/hectare.

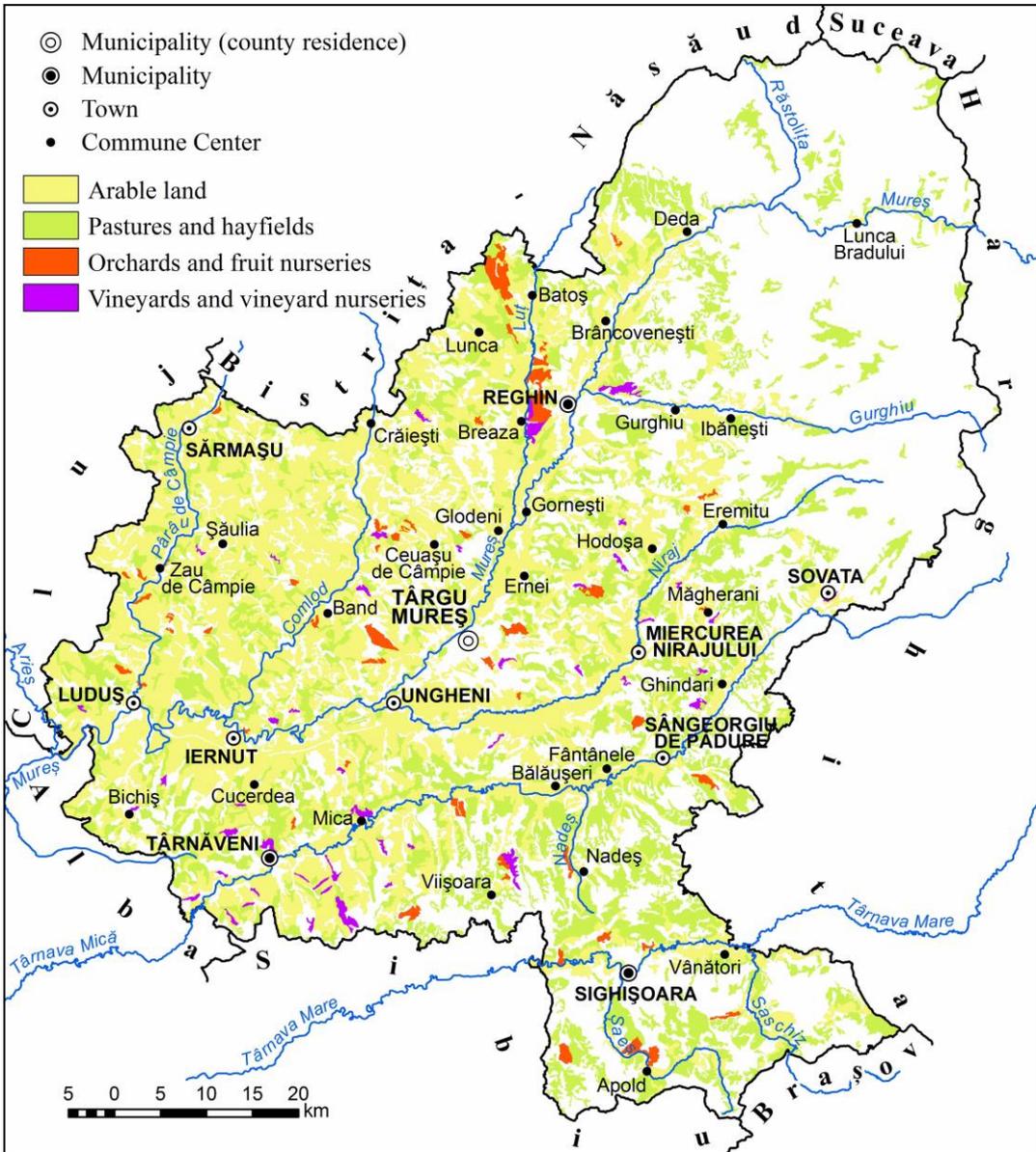
### **Pastures and hayfields**

This land category forms the fodder basis for animal husbandry. Compared to the county surface area, it holds the second place after arable land, with 27.3% (183,519 hectares). Pastures have a relative value of 16.3% (109,257 hectares), while hayfields 11% (74,262 hectares).

*a) Pastures* register different values both in terms of nutritional content as well as in their territorial distribution across the county. Most territorial units record values between 10-20% (57), the lowest percentages being found in the City of Târgu-Mureș (2.2%, 110 hectares), Crăciunești (3%, 148 hectares), Reghin (5.7%, 321 hectares) and Cristești (5.7%, 76 hectares), and the highest in Chibed (43.2%, 1,580 hectares), Vețca (33.3%, 1,249 hectares) and Brâncovenești (31.5%, 2,756 hectares). Areas with 20-30% can be found solely in two communes located in the Toplița-Deda Corridor (Răstolița, 5,032 hectares and Lunca Bradului, 4,759 hectares) (G. B. Tofan, 2014, p. 96), as well as in the marginal submountain depressions of Reghin Hills (Gurghiu, 2,696 hectares, Hodac, 2,121 hectares and Vătava 2,084), Northern Hârțibaciu Plateau (Apold, 2,595 hectares) and Târnava Mare Valley (Daneș, 2,102 hectares).

*b) Unlike natural fields, hayfields* have a sizeable plant richness and a higher nutritional value for animals, but their surface area remains low (74,262 hectares). Most are found in Reghin Hills (Deda, 33%, 2,524 hectares, the highest percentage in the county), Aluniș (32%), Idecu de Jos (29%), Solovăstru (28%), Rușii-Munți (27%), Vătava (26%), Brâncovenești (24%) and Beica de Jos (22%), as well as in the Târnava Mica Valley, at Sărățeni (29%) and Adămuș (23%). The lowest percentages were recorded in the Mureș Plain and the valleys of Mureș and Niraj, meaning that 61 of the total 102 administrative-territorial units in the county have relative values of below 10% (Târgu-Mureș, 2.2%, 108 hectares, the lowest in the county). This is partly due to a larger

extension of arable lands (such as the case of Sântana de Mureș, where there were no records of hayfields), as well as to the presence of forested and pasture areas in the mountains.



**Figure 4.** Mureș County. Agricultural land usage map

Source: after Corine Land Cover 2016

### Orchards and nurseries

In some parts of Mureș County, pomiculture has been blessed with favourable oropedoclimatic conditions, as well as a certain tradition. In 2016, compared to the entire surface area of the county, orchards covered 0.8% (5,151 hectares), half being active (2,694 hectares), the remaining hectares being young orchards, nurseries, and decrepit orchards. Thusly, the higher area covering the eastern part of the county hosts the fruit growing region of *Reghin*, with a surface of

1,473 hectares (Batoș, 765 hectares; Reghin, 511 hectares and Breaza, 197 hectares). The area is dominated by apple cultivars, such as *Golden Delicious*, *Jonagold*, *Pinova*, *Jonathan*, *Idared*, *Red Delicious*, *Florina* and *Generos*. Some areas are covered by plum, cherry and pear trees. Moreover, there are other, smaller, fruit growing areas in the Transylvanian Plain (Pănet, 444 hectares and Ceuașu de Câmpie, 145 hectares) and Târnave Plateau (Apold, 436 hectares; Suplac, 215 hectares; Livezeni, 203 hectares; Bahnea, 140 hectares; Daneș, 120 hectares, etc.). These are dominated by plum trees, followed by apple, pear and walnut, and, in some areas, even peach and apricot trees.

### **Vineyards and nurseries**

In 1990, the surface area covered with vineyards was 4,916 hectares. However, following the retrocession process, the vineyards dropped to 1,664 hectares (0.3% of the county territory) in 2016, with 964 hectares of active vineyards (690 hectares graft and 274 hybrid) and 4 hectares of vineyard nurseries. Taking into account the exposure, orography, climate, soil cover and structure, the vineyards compose a relatively large wine region, *Târnave Wine Country*. It is one of the oldest and most well-known wine areas in the country, covering the sunlit slopes of Mureș Corridor and parts of the Târnave valleys (Geografia României, II, 1984, p. 359). Mureș County has three wine producing centres: *Târnăveni* (encompassing the communes of Adămuș, Băgaciu, Gănești, Mica, Suplac, and Bahnea), *Zagăr* and *Nirajului Valley* (Zagăr, Viișoara, Coroisânmartin, Bălăușeri, Fântânele, Nadeș, Acățari, and Crăciunești). Grapes are mostly used to produce wine, with sparkling wines, both white (*Gewurztraminer*, *Chardonnay*, *Pinot Gris*, *Muscat Ottonel*, *Sauvignon*, *Neuburger*, *Riesling Italian*, *Riesling de Rhin*, *Fetească Regală*, *Fetească Albă*, *Furmint*), and red (*Cabernet Sauvignon*, *Pinot Noir*, *Fetească Neagră*, *Syrah*, *Merlot*) (Șoneriu, Mac, 1973, p. 138). Other wine making centres can be found in Batoș, Ceuașu de Câmpie (village of Culpui), Band and Mădăraș, part of *Lechința*, which, alongside Târnave Area, produces excellent wines.

### **CONCLUSIONS**

In 2016, out of the entire surface area of Mureș County (671,388 hectares), 61.2% or 411,131 hectares or the vast majority was agricultural land. Out of this, more than half was arable (220,797 hectares), followed by pastures and hayfields (183,519 hectares). The remaining land was occupied by orchards and vineyards (6,815 hectares). Arable land was most extended in the western part of the county, in the Mureș Plain and Corridor, where grain plant growing is the most mature (119,701 hectares), thus making the region one of the „*bread baskets of Transylvania*”. There are also considerable areas cultivated with fodder plants (48,412 hectares), which supports a strong animal husbandry sector.

I identified a decline in hemp, sugar beet, millet and tobacco plantations, while the high demand for cooking oil led to an extension of sunflower, rapeseed and soy plantations. Vegetable and potato fields are found across the entire county, with four large cultivation areas: Mureș Plain and Târnava Mică-Nirajului (more extended), as well as Mureș Corridor and Reghin - Sângeorgiu de Pădure Hills (less extended), where production are traded as well as used in house.

Pastures and hayfields are mostly on the eastern hills and depressions (Reghin Hills), as well as in the mountains (Toplița-Deda Defile), (Tofan & Păcurar, 2013, p. 335), less so in lower areas. Orchards and vineyards declined extensively in the past three decades due to the retrocession process, as the new owners failed to maintain and reinvigorate said plantations, which in turn led to low yields.

Geographically speaking, pomiculture is more extended in the *Reghin Basin*, while viticulture in the *Târnave Area*, with centers in Târnăveni, Zagăr and Valea Nirajului, as well as *Lechința Areas*, mostly in Batoș, Ceuașu de Câmpie, Band and Mădăraș.

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