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# LABOR FORCE IN THE EUROPEAN UNION AGRICULTURE - TRAITS AND TENDENCIES

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***Abstract***

*The paper aimed to analyze the features of work and work force in the EU agriculture and identify the changes regarding the number of working persons, number of farmers, type of work, utilized agricultural land, standard output, and age, gender, education level structure, based on the data provided by Eurostat. The authors made a comprehensive approach of the main aspects concerning labor force as a reflection of the EU policy measures. The main indicators were described and classified according to the type of work: family work and non family work, pointing out that the EU agriculture is running mainly in family farms of a small size, in which the activity is done both by the farmer and his family members. Family farms represent 95.2% of the total number of farms. They work 62.2% of the total utilized agricultural land and contribute by 59.5% to agricultural output. The higher the average farm size, the higher the average regular work force and the higher average standard output per farm and year. The farmers' ageing and workers' migration led to the decline of labor force in agriculture but to the growth of farms size and productivity. Training level of the most of working persons in agriculture is still low. The new technologies, the challenges created by climate change, the need of environment protection and biodiversity and landscapes preservation in the rural areas claims as farmers to become the main "actors" of the rural communities. Farmers have to be highly trained with entrepreneurial and technological knowledge and skills to be able to continue the sustainable development of agriculture in the future.*

***Key words*****:** *labor force, agriculture, European Union, features, trends*

## INTRODUCTION

Agriculture is one of the high importance branches of the economy as growing crops and raising farm animals are destined to offer raw materials to processing industry in order to achieve food products ready to cover the consumption needs of the population and to ensure food security.

The performance in agricultural output and gross value added produced in this sector is deeply conditioned by geographical position of the agricultural land, soil quality and structure, climate conditions, technical endowment, production systems, applied technologies, farming practices, farm inputs, labor force in terms of number of working persons, training level, age and productivity [26].

Agriculture is the main activity carried out by the rural population, and the main source of income which determines its living standard [22].

Labor force, land and capital form the well known "trilogy of production factors" in agriculture according to the theory of economic analysis [20, 27].

The harmonized combination between production factors is essential for assuring agriculture development. Work is the determining factor which values all the resources, that is the capital formed of

agricultural land and operational capital. The training level, practical experience and entrepreneurial skills of the people working in agriculture are very important for enhancing the progress in the field [23].

Work has a high share in production costs, usually varying between 30% and 60% depending on the agricultural sector: vegetal, animal and services, applied technologies and production systems (intensive, extensive, semi-intensive, organic etc), and farm size.

The European Union pays a special attention to agriculture and farmers whose role is vital in the sustainable development of the rural communities, in providing safe and affordable food to more than 450 million European citizens, assuring environment protection, preserving biodiversity and maintaining their countries' landscapes [4, 17].

The percentage of agricultural work force in the EU varies from a member state to another, and the general trend is the decline of the number of persons involved in agricultural activities due to ageing and migration to the cities especially of the young generation looking for better paid jobs.

Taking into account these aspects and also the impact of climate change on agriculture, by its Common Agricultural Policy, many times reformed and adapted to the new challenges, the EU supports farming sector by providing programmes and measures for assuring a sustainable development of agriculture, keeping pace with the last solutions given by scientific research and technological progress for producing more, of high quality and efficiently, for fighting against the climate change, for protecting environment, for encouraging the young generation of farmers and for better meeting consumers' demand for healthy food.

The reduction of labor force dealing with agriculture must not be seen as a negative tendency, on the contrary, it has a positive influence on the increase of productivity and also on the improvement of farm structure, assuring the growth of the farm size [5, 7].

In the EU agriculture, working people has a different number, age, gender, education level, productivity, income and living standard from a member state to another and these aspects are in a continuous change. For these reasons, they have to be statistically studied in order to set up new policies to ensure agriculture development [9, 24].

In this context, the paper aimed to analyze the status of labor force in the EU and the changes in the number of working persons, number of farmers, type of work, utilized agricultural land, standard output, and age, gender, education level structure, as a reflection of the EU policy measures and what it is needed to be done for the future to assure the sustainable development of agriculture.

## MATERIALS AND METHODS

This research is based on the data provided by Eurostat data, Reports of the European Parliament, European Commission, and results mentioned in the literature in the field.

It presents a comprehensive analysis of the labor force in the EU during the last decade, having in mind a new approach based on the type of work emphasizing on the following aspects:

-peculiarities of work in agriculture,
-the number of persons working in agriculture,
-the type of work,
-the classification of farms,
-the dispersion of the utilized agricultural land, and standard output by type of work,
-the connection existing between average farm size, average regular work force, standard output and type of work,
- age structure of agricultural labor force
-farm managers evaluated by means of their age, gender and training level.

Indices of dynamics and structure have been frequently used in this study. Also, comparisons were made regarding various aspects analyzed about the labour force and allowed to create an image on the actual status of labour force in the EU member states.

For each of these aspects, there were made comments and given examples of the real situation in different EU member states.

The comments were sustained by the results presented in tables and graphics, and at the end of the research were drawn the main conclusions.

## RESULTS AND DISCUSSIONS

### The peculiarities of work in agriculture

Agriculture is the main sector of the EU economy where employment is still high due to the specificity of production systems, number of farms, farm structures and the peculiarities of agricultural products chain.

Compared to other economic fields, in agriculture work processes are of high complexity due to the large range of activities imposed by the biological specificity of plants and animals, production systems, technical endowment, natural conditions (soil climate etc), farm size.

More than this, work in agriculture is heterogeneous and not uniform across the year, it si hard and supposed to many risks outdoors, being under the influence of climate factors, which many times have a deep impact on the economic and financial results.

Therefore, work is different in the vegetal from the animal sector, and from the activities carried out by agricultural services.

In the vegetal sector, the work is achieved in agricultural campaigns of land clearing, plowing, sowing, fertilizing, maintaining the crops, harvesting etc according to the technology peculiar to each agricultural crop. Therefore, in general, in the vegetal sector many farmers have peaks of activity and also periods of a slight work, characterizing crop sector much more as a part-time activity than a full-time work.

In the animal sector, the work must continue over the year obliging the farmer and workers to be present every day, as farm animals needs everyday to be fed, watered, well kept, in a good health and hygiene condition during their way from "farm to fork".

Seasonality of work in agriculture is an important feature imposed by the technological processes, which determine peaks of hard work and also periods of slight work and even relaxation across the year.

As mentioned above, work in agriculture is done in accordance with the requirements of various crops and animal species and categories for achieving the planned production ( fertilization, treatments, irrigations etc in case of the agricultural crops, and feedstuff, water, treatments etc on case of animal growing).

Specialization is lower in agriculture because the existence of two types of cultures: (i) policulture which is the most developed, meaning the mixture between the vegetal and animal farming or a combination of more vegetal sectors and this require farmers and workers with a high level of training in many fields; (ii) monoculture, where farmers are specialized in one direction of activity, as in case of viticulture, for instance.

Work in agriculture is in general a traditional one involving the farmer and his/her family members in most of cases, therefore it is a family work of whose involvement depends farm performance.

In the EU agriculture, many farms are family farms where the members of the family use to be deeply involved in the farm activities giving a help in hand to the head of the farm in different moments of the production year [1].

In agriculture, work is difficult to be quantified and mainly regarding its quality. Usually, the work carried out in the vegetal sector or animal production is quantitatively assessed at the end of the production cycle, meaning harvesting, milking, slaughtering etc.

Another important feature is related to age structure of the agriculturists. Work force dealing with agriculture is dominated by middle aged and elder persons living in the rural areas, most of them involving their families in the farm works. The young generation is tempted to quip the farm and go to the cities to find an easier and better paid job. Therefore, farmers ageing and migration have determined the decline of the number of workers in agriculture.

In this respect, an important role played the payments established by EU policy (CAP) destined to adjust this process by creating jobs in agriculture and services (like agrotourism etc) in the rural areas [2, 19].

Modern agriculture requires a high training level of farm managers, meaning knowledge, skills not only in the field of the new technologies but also regarding the managerial and entrepreneurial abilities. This means to create a new generation of farmers

who are called to develop the agriculture of the future [16].

Due to the seasonality of the agricultural work, the number of persons employed based on a permanent contract is very small, jobs are not stable and safe, and income is smaller than in other sectors of activity.

Therefore, across the year, a different number of persons is involved in the agricultural activities.

Table 1. Main features of the work and labor force in agriculture

| **Traits of agricultural work** | **Traits of labor force in agriculture** |
|---|---|
| -High complexity activities | -High share in the production costs |
| -High specificity in accordance with crop and animal biology | -Dominant part-time labor force |
| -Heterogeneity | -Rarely full-time employment |
| -Lack of uniformity | -Seasonality of part time labor force |
| -Hard work | -Multiple knowledge and skills fir mixed farming |
| -Risky work outdoors | -Ageing |
| -Under the influence of the climate factors | -Middle aged and elder persons are dominant |
| -Seasonality of the activities | -Just a few young workers |
| -Low specialization | -A few young farm managers |
| - Highly mixed work | -Migration to cities |
| - Difficult assessment from a quantitative point of view | - Labour force decline |
| -Difficult appreciation of work quality | -Low training level is dominant |
| | - A small percentage of highly trained persons in agriculture |
| | -Job instability and insecurity |
| | -Small income from agriculture |

Source: Authors' conception.

Due to these peculiarities, it is very difficult to make comparisons between employment in agriculture and employment in other economic sectors.

In agriculture, the statistics regarding employment includes both employed persons and self-employed persons, but often it does not take into account part-time farmers and the contribution given in agriculture by the farmer's family members.

For this reason, the EU approaches work in agriculture from four points of view as follows:

(a) employment in agriculture, which refers to the permanent labor force involved in the specific activities;

(b) the regular labor force in agriculture which includes all the persons working in this field, both the part-times workers and farmers and the work run by the farmer's family members.

(c) the volume of work carried out in agriculture which could be assessed into full-time equivalents which are named "Annual Work Units"(AWU) and this is the key which offers the possibility to compare the work volume run in various sectors of the economy;

(d) farm managers, who are those persons responsible of decision making regarding the assurance of the farm inputs (machinery, biological material: seeds, planting materials, animals, fertilizers, pesticides, fuels and lubricants, machinery parts, etc), the good running of production processes according to the adopted technologies specific either to vegetal or animal sector, product marketing and finally respond of the economic efficiency of the farm activity.

In most of cases, they are the owners of their farm and develop their own business in agriculture under a legal entity form.

Having in mind this approach of people working in agriculture, from the EU regular agriculture labor force of 20.5 million people in the year 2016, only 17% accounted for full-time working persons, that is only 3.49 million persons. Also, of the number of persons working regularly in the EU agriculture, 89.5% were sole farmers or family members of the farmer.

All these aspects are fundamental items in setting up the agricultural policy regarding work force, labor productivity and performance in agriculture.

**People working in the EU agriculture**

In the EU agriculture, in 2016, there were employed 9.7 million persons, representing 4.2% of the total number of employed people in the whole European community.

However, from a member state to another, the number of persons dealing with agriculture varies. The highest number of people working in agriculture is in Romania, accounting for 23 %, followed by Bulgaria with 17.5%, Greece with 10.7% and Poland with 10.1%. All these four countries together accounted for 61.3% of the labor force working in the EU agriculture.

**Farm hierarchy according to the type of work**

Work in the EU agriculture is running both by the farmer and his family members, in other words, meaning work in family farms and work which is running in farms where labor is employed and the members of the farmer's family are not involved or only in just a few measure.

In the EU, in 2016, there were 10,465 thousand farms, of which 9,956 thousands were family farms, representing 95.2% and only 509 farms were non family farms. Therefore, the work in the EU agriculture is mainly carried out by the farmer and his/her family (Fig.1.)[14].

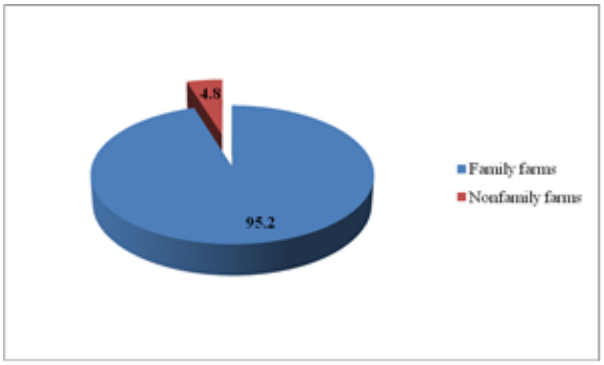


Fig.1. Farm structure by farm type of work (%)
Source: Own design based on the data from [11].

Of the total number of family farms, 9,728 thousands farms, that is 93%, solve the activities only with the family workers. Just a few farms, more exactly 228 thousands farms use family workers in a higher percentage than 50 but not 100 % [13].

In case of the non family farms, 333 thousands farms do not use any family labor, therefore, they employ labor force from outside to run the farm activities, and other 176 thousands farms utilize family workers in a lower proportion than 50 but not zero% (Table 2).

Table 2. Farm classification, distribution of the utilized agricultural area and standard output by farms according to the type of work force, EU-28 (2016)

| Type of work force | Number of farms | | Utilized agricultural area UAA | | Standard output | |
|---|---|---|---|---|---|---|
| | Thousands | % | ha | % | Euro Million | % |
| EU-28, of which: | 10,465 | 100.0 | 173,454 | 100.0 | 352,189 | 100.0 |
| A. Family farms | 9,956 | 95.2 | 107,960 | 62.2 | 209,722 | 59.5 |
| (a)With only family workers | 9,728 | 93.0 | 92,402 | 53.3 | 169,132 | 48 |
| (b)Family workers make up 50% or more (but not 100%) | 228 | 2.2 | 15,558 | 8.9 | 40,590 | 11.5 |
| B. Non family farms | 509 | 4.8 | 65,494 | 37.7 | 142,466 | 40.5 |
| (a)Family workers make up less than 50% (not 0) | 176 | 1.6 | 18,231 | 10.5 | 51,070 | 14.5 |
| (b)No family labor force | 333 | 3.1 | 47,263 | 27.2 | 91,396 | 26.0 |

Source: Own calculations based on the date from Eurostat, 2021 [11].

Therefore, the EU agriculture is dominated by family farms. The countries with the highest number of family farms are Romania (3,422 thousands, 32.6%), Poland (1,411 thousands, 13.4%), Italy (1,146 thousands, 10.9%) and Spain (945 thousands, 9%), all these four countries together summing 65.9% of the family farms existing in the EU.

The countries with the most numerous non family farms are: France (144 thousands farms) and Spain (121 thousands farms) [6, 15, 25].

The EU policy measures destined to new structural developments have been reflected in the reduction of the number of farms, in the increase of the farms size and production and re-specialization. In the EU-28, in the period 2005-2010, the number of farms decreased by 3.7%, while the average farm size raised by 3.8% annually. The growth of the farm size

allows the specialization of the farms either in vegetal sector (cereal cropping, for example) or in livestock growing and in this way mixed farming diminishes its share in the farm structure [18].

**Dispersion of the utilized agricultural land (UAA) by type of farm labor force**

In 2016, the EU-28 had 173,454 thousand ha UAA, of which 107,960 thousands ha were used by family farms, meaning 62.2% and the remaining of 37.75% was worked by non family farms.

The farms with only family workers keep 92,402 thousands ha UAA, representing 53.27% of the total EU UAA. A share of only 8.96% belongs to the farms where family workers make up 50% or more, but not 100%. (Fig. 2).

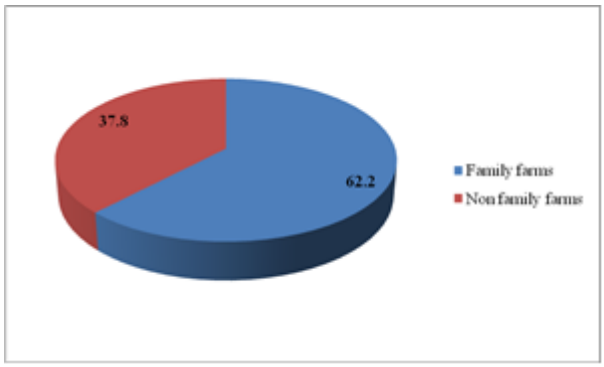


Fig. 2. The utilized agricultural area by farm type of work force (%)
Source: Own design based on the data from [11].

In case of non family farms, the largest UAA accounting for 47,263 thousands ha, that is 27.2% of the total EU UAA, belongs to the farms with no family labor force (Table 2).

Of the total EU UAA, the largest agricultural surface is worked in France (16%), Spain (13.3%), United Kingdom (9.6%), Germany (9.6%), Poland (8.3%), Italy (7.2%) and Romania (7.2%), all together these seven countries summing 71.2%.

The family farms with the highest share in the total UAA are: Spain (13%), France (11.5%), Poland (11.4%), United Kingdom (10.5%), Germany (9.9%), Italy (9.6%) and Romania (6.35). All together account for 72.2% of the total UAA worked by family farms.

The largest share of UAA worked by only family workers is in: Spain (13.7%), Poland (12.8%), Italy (10.2%), France (9.6%), United Kingdom (9.3%), Germany (8.8%) and Romania (7.4%), all together accounting for 74.5% of the total UAA worked by farms with only family workers.

The countries with the highest weight of non family farms' work are: France (23.4%), Spain (13.9%), Germany (9.1%), Romania (8.6%) and United Kingdom (8.3%), all these member states summing 63.3%.

The farms with no family labor force but with a significant UAA are in France (23.9%), Spain (15.9%), Romania (11.8%), Germany (6.1%) and United Kingdom (6%), totaling 63.7% [21].

**Dispersion of Standard output by type of farm labor force**

In 2016, in the EU-29 it was achieved Euro 352,189 Million standard output, to which the family farms contributed by 59.5% and non family farms by 40.5%.

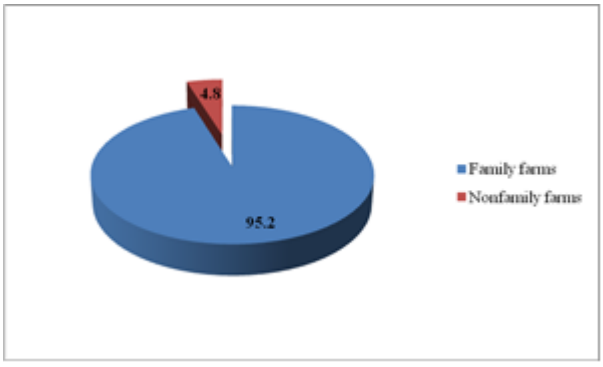


Fig. 3.Contribution of farms to standard output by farm type of work force
Source: Own design based on the data from [11].

The farms where work is made only by the farmer and his/her family members had the highest contribution accounting for 48%, while the farms with no family labor force contributed by only 26% (Table 2).

**The relationship between average farm size (UAA ha), average regular work force (AWU), average standard output and type of farm labor**

Making the calculation of the average farm size, average regular work force and average standard output per farm by type of farms based on the used labor force, it is easy to notice the following aspects:

- the family work is used exclusively in the smallest farms whose average size is around 10 ha, AWU accounts for 0.6 and the average standard output has the lowest average, about Euro 20,000 per farm;
- in the farms where family workers make up 50% or more, but not 100% of the regular labor force, the farm size is higher, reaching 70 UAA ha, the average AWU accounts for 2, and the average standard output is about Euro 175,000;
- in the farms where the family workers make up less 50% (but not 0) of the regular labor force, the average farm size reaches 100 ha, AWU accounts for 3.2 and standard output accounts in average for Euro 290,000 per farm;
- finally, in the farms where it is not used family labor, the farms size is the highest and accounts in average for 140 ha UAA, AWU mean is 2.7 and the average standard output is Euro 270,000 per farm [10, 11].

Therefore, the lowest average regular work force involved in farm activities is in the small farms, and the economic performance in terms of standard output is the lowest. The largest farms whose average size is about 100 ha have a higher regular work force and also a higher standard output, therefore a higher economic impact [29] (Table 3).

Table 3. Average farm size, average regular work force and average standard output by type of farm labor in 2016

| Type of farms based on labor force | Average farm size (UAA HA/farm) | Average regular work force (AWU/farm) | Average standard output (Euro/farm) |
|---|---|---|---|
| Only family workers | 10 | 0.6 | 20,000 |
| Family workers make up 50% or more (but not 100%) of the regular labor force | 70 | 2 | 175,000 |
| Family workers make up less than 50% (but not 0) of the regular labor force | 100 | 3.2 | 290,000 |
| No family labor force | 140 | 2.7 | 270,000 |

Source: Own calculations based on Eurostat data, 2021

However, the EU agriculture is dominated by family farms, and the average farm size is very small in most of the EU members states. The EU-28 average farm size accounted for 16 ha, and eleven member states have farms whose average size is smaller than the EU average. It is about Malta, Romania, Cyprus, Greece, Bulgaria, Hungary, Slovenia, Croatia, Portugal and Italy. Malta and Romania having in average between 1 and 2.6 ha farm size.

Other EU countries like: Lithuania, Slovakia, Spain, Austria, and Latvia have farms whose average size exceeds the EU average but they do not exceed 20 ha per farm.

In other member states like: Netherlands, Czechia, Ireland, Belgium, Sweden and France, the average farms size is ranging between 30 and 40 ha, while in in Finland and Germany the average farm size accounts for about 42 ha.

The counties with the largest farm size in the EU are: Denmark 53 ha, Luxembourg 63 ha and United Kingdom with 68 ha [9].

**Age structure of labor force in the EU agriculture**

In 2016, the age structure of the labor force working in the EU-28 reflected that the highest share of 55.2% belonged to the 40-64 years group, 42.4% to the 15-39 years group and only 2.4% to the elder group of 65 years and over (Fig. 4).

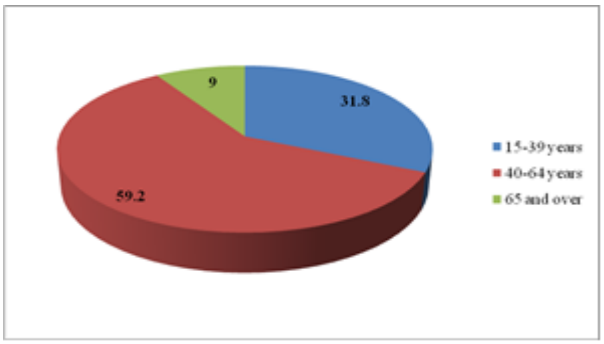


Fig. 4. Farm labor force structure by age (%)
Source: Own design based on the data from [11].

In the EU-28 agriculture, the top position was occupied by the 40-64 years group with a share of 59.2%, followed by the 15-39 years group with 31.8% and the elder group of 65 years and over with 9%.

The highest share of the persons working in agriculture and having 65 year and more is in the following countries: Portugal (41.6%), Ireland (21.7%), United Kingdom (18.6%), Slovenia (17.5%), Cyprus (15.7%), Croatia (14.2%), Austria (13.8%), and Romania (13.6%).

The highest share of the persons working in agriculture and belonging to the medium age group varying between 40 and 64 years exceeds 55% in almost all the EU member states, except Denmark, Cyprus, Luxembourg, Portugal, Romania, Sweden and United Kingdom.

Therefore, the EU agriculture is dominated by a work force whose age is high, and the young workers represent just one third of the working people in this sector.

The highest share of agricultural workers whose age is ranging between 15 and 39 years is in Luxembourg (50%), Denmark (44.7%), Spain (36.9%), and Slovakia (35%). The lowest share of the young agricultural workers was noticed in Portugal (13.9%).

If in 2005, the EU had 5.7% employed persons in agriculture, in 2016, their share was only 4.4% [12].

This was caused by the reduction in the regular labor force in agriculture by -31.7%, which in its turn was determined by work force aging and migration.

This led to a decline in work volume by 3.3 million AWUs in the interval 2005-2016.

The highest decline of the agricultural work force was registered in Romania (over 1 million AWUs), Poland (0.6 million AWUs) and Bulgaria (0.4 million AWUs0, all these three countries together summing 60% decrease.

The effect of the reduction in working people in agriculture was a positive one on labor productivity in this economic sector.

**Farm managers- age structure by type of farm labor force**

In 2016, in the EU-28, there were 10,306 farm managers of which 95.3% were managers of family farms.

About 55.7% of family farms managers had the age between 40 and 64 years and 33.9% were of 65 years and over. Therefore, only 10.4% are young with an age below 40 years.

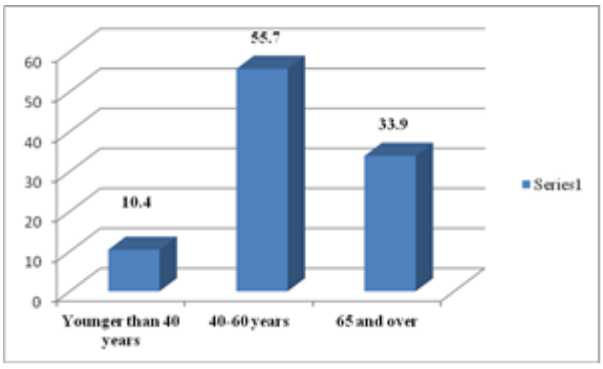


Fig. 5. Age structure of the managers of the family farms (%)

Source: Own design based on the data from [11].

The young farm managers accounted for only 1 million, that is 9.9%.

In case of the managers of non family farms, the highest share belonged to the 40-64 group (3.2%) and the youngest managers represented just 0.7% (Table 4).

Table 4. Farm managers by age group and type of farm labor force in 2016, EU-28

| Type of labor force in the farms | Number of farm managers (Thousands) | % |
|---|---|---|
| All farm managers, of which: | 10,306 | 100.0 |
| A. Managers of family farms labor | 9,823 | 95.3 |
| - Less than 40 years | 1,022 | 10.4 |
| - Between 40 and 64 years | 5,474 | 55.7 |
| - 65 years and over | 3,325 | 33.9 |
| B. Managers of non family farms labor | 483 | 4.7 |
| - Less than 40 years | 81 | 16.7 |
| - Between 40 and 64 years | 336 | 69.5 |
| - 65 years and over | 66 | 13.8 |

Source: Own calculations based on Eurostat, 2021 [11].

The EU countries with the highest number of the farm managers of family farms and with the age of 65 years and over are: Romania (1,514 thousands), Italy (459 thousands), Spain (269 thousands), Greece (227 thousands), Poland (163 thousands) and Hungary and Portugal (130 thousands each).

The countries with the highest number of family farms managers whose age varied between 40 and 64 were: Romania (1,632 thousands), Poland ( 948 thousands), Italy (556 thousands), Spain (489 thousands) and Greece (394 thousands).

The members states with the youngest farm managers of family farms and with the age below 40 years are: Poland (282 thousands) and Romania (250 thousands) [8].

**Farm managers structure by age group and gender**

In 2016, in the EU, the farmers who are over 55 years accounted for 39.5% in case of male farmers and 19.5% in case of female farmers, all together summing 59% of the total number of farm managers [11].

Therefore, the elder managers still dominate the EU agriculture and the young generation of managers has still a smaller weight. Male farmers are 3 times more numerous than the young female managers.

However, in the age group of 45-54 years, 17.5% of the farmers are men and 5.5% are women (Table 5).

Table 5. Age and gender structure of the EU farm managers (%)

| Age group (years) | Male farm managers | Female farm managers |
|---|---|---|
| 65 and over | 21 | 12.5 |
| 55-64 | 18.5 | 7.0 |
| 45-54 | 17.5 | 5.5 |
| 40-44 | 7 | 2.0 |
| 35-39 | 4 | 1.5 |
| 25-34 | 3.5 | 1.0 |
| Less than 25 | 0.2 | 0 |

Source: Adapted based on Eurostat data, 2018 [11].

Gender structure is very different from a county to another. In Netherlands, Malta, Denmark and Germany, the female managers had a very low weight (5.2%, 6%, 7.7% and respectively 9.6%) of all the farmers, in Latvia and Lithuania about 45% of the farm managers are women. [28].

Therefore, in agriculture and rural development, participation of men and women is inequal, as most of the activities as dominated by men, women role is almost invisible, and just a few women have the courage and abilities to develop a business in agriculture [3].

If we approach the farmers' age in relationship with the farm size, we may notice a positive and strong connection.

The farm managers' aging determines them to abandon at a moment their job because their age and health status does not allow them to manage a farm any longer.

In this case, usually their farm joins another farm and in this way, the number of farmers and also the number of farms decline from a year to another, Therefore, the change in farm structure and farm managers' age could contribute to the improvement of farm structures, age of the farm managers, and also of labor productivity, and farm performance.

**Structure of work force in the EU agriculture based on the training level**

In 2019, of the EU total number of persons employed and being between 20 and 64 years old, 6,294.7 thousands, just 3.28% represented the skilled workers dealing with agriculture, forestry and fishery. This reflects that in agriculture the degree of training is much lower than in other sectors of activity in the EU [14].

In 2016, in the EU-28 agriculture, 50.2% persons had a medium training level, 40.7% had a low training level and only 8.9% had a high one.

The countries with the highest share of the highly trained agricultural workers were: United Kingdom (25.5%), Germany (23.5%), Belgium (20%) and Austria (20%).

The highest share of the agricultural workers with a medium training level was registered in over 40% of almost all the EU member states, except: Italy (34.7%), Greece (31.2%), Cyprus (30.4%), Spain (16.8%), Portugal (7.9%).

The countries with the lowest training level of the labor force in agriculture are: Greece (64.2%), Spain (72.5%) and Portugal (87.6%).

**Farm managers training level**

The farmers over 65 keep in general the smallest farms, which are usually subsistence households destined to cover the family needs, therefore with a low agriculture return, but their share is 81.7%.

Only 7% of this age category owns medium and large sized farms.

This situation is explained by the low training level existing among the elder farmers, only 2.6% of them having high agricultural training. Most of them practice agriculture as they have learnt from their parents and based by their own experience over the time.

The young farmers with high agricultural training have a share of 20% and their skills and knowledge allowed them to develop a successful business in larger farms. The statistics confirms that 27.5% of the young farmers manage medium and large-sized farms.

About 68.3% farmers have got experience across the time practicing agriculture, on the principle "learning by doing". Other 22.6% farm managers have a basic training and only 9.1% have a full agricultural education level.

The lowest training level among the farm managers is in Romania and Greece, where only 0.4% and respectively 0.6% of them have full agricultural education. In these cases, the most numerous farmers run agricultural activities based on their practical experience and their share is very high: 96.7% and 93.2%, respectively.

At the opposite pole, there are the farmers with the highest training level in agriculture. The highest share of these farmers exists in Luxembourg (52.5%), Czechia (38.7%), France (34.9%) and Latvia (31.3%) [11].

## CONCLUSIONS

According to the type of work force, the EU has two types of farms: family farms and non family farms. Each of them have two subdivisions depending on how much the farmer's family members are involved in the farm activities.

In the EU, family farms represent 95.2% of the total number of farms. They work 62.2% of the total utilized agricultural land and contribute by 59.5% to agricultural output.

In the family farms of the EU, there are two types of farms in accordance with the contribution of the farmer's family members to the farm activities. It is about: (i) farms where the family work accounts for 100% and (ii) farms where the agricultural works are made up 50% but no 100%.

Among the non family farms of the EU, there also two types of farms: (i) farms where the farmers' family members work less than 50% but not zero%, and (ii) farms with no family work 100%.

The farms where work is made 100 by the farmer's family members are the smallest farms, they have the lowest average regular work force and the lowest average standard output.

The higher the average farm size, the higher the average regular work force and the higher average standard output per farm and year.

Labor force in the EU agriculture is ageing. The age structure shows that 59.2% represent the category with the age between 40-64 years and 9% the one with persons of 65 and over.

The young work force is just one third of the total number of persons working in agriculture.

Only 10.4% of the total number of farm managers are younger than 40 years.

The farmers of 40-60 years dominate agricultural labor force with 55.7% share and the oldest farmers represent one third of the total number of farmers.

Women farm managers represent only 28.3%, therefore agricultural business is dominated by men.

In the EU agriculture, over 50% of the labor force has a medium training level and 40.7% has a low training. Only 8.9% of the agricultural labor force is highly trained.

In general, the farmers having the smallest farms have also the lowest training level, farming is based on their own experience. Only 2.6% of this category of farmers has a high education level.

About 20% of the young farmers are highly educated in the field of agriculture.

Despite of this positive and less positive aspects related to labor force, and even though

the existing differences existing between the member states, the EU agriculture is of high performance.

Due to the Common Agricultural Policy, all the EU countries are aligned and involved in the competition to perform better, to produce more products and of high quality, keeping pace with the technological progress and results obtained in the applied scientific research in order to face the new developing challenges and strong competition inside the EU and also in the international market.

In the prospect of the coming future, the new CAP reform emphasizes the role of farmers in finding solutions against the impact of climate change, in producing high quality and healthy food, in assuring environment protection, biodiversity and rural landscape preservation.

Farmers have to become the core of the rural communities and that is why the EU policy encourage young farmers to assure the stability of work performance in agriculture and the continuous development of the rural areas.

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