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# PROFESSIONAL TRAINING OF FARM MANAGERS: ANALYSIS OF TRENDS AND CURRENT STATUS

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**Abstract:** *In recent years, worldwide, increasing the professional training of farm managers has become vital in the context of the implementation of new technologies/production methods: professional training is a key component needed to face current and future challenges. New technologies, which pave the way for greater efficiency in the agricultural sector, require farm managers to acquire new skills such as data analysis, robotics, GPS systems, drone operation, etc. Acquiring the right mixture of knowledge will increase understanding of precision farming techniques and strengthen farm sustainability. Romanian agriculture must rally along this path in order to become more sustainable - while meeting the increasingly high expectations of consumers. The main objective followed in this paper is the analysis of the structure of Romanian farm managers according to the degree of professional training. The methods used to achieve this objective were the documentary analysis of the works published in the country and abroad on this subject and the statistical analysis that used data collected during the Agricultural Censuses. The main conclusion that emerges shows that in the last ten years the level of professional training of farm heads was quite low, representing one of the main factors that led to maintaining a low competitiveness of the agricultural sector.*

**Keywords:** *professional agricultural training, farm manager, Romania*

**JEL Classification:** Q19

## INTRODUCTION

In recent years, increasing the professional training of farm managers has become important in the context of the implementation of new technologies/production methods: their professional training is a key component to face economic, social and environmental challenges. Professional training in agriculture determines how farmers manage their agricultural farms and therefore the amount of output they get. Professional training in agriculture goes beyond the use of traditional agricultural tools to cultivate land or raise animals (Tambi, 2019). The new technologies that pave the way to better efficiency suppose that farm managers acquire new skills such as data analysis, drone operation, use of GPS systems, analysis of satellite images etc. (EP, 2016). Gaining more knowledge can increase understanding of precision farming techniques and strengthen the financial and environmental sustainability of farms. Agriculture must rally along this path to become more sustainable but also to meet the increasingly high expectations of consumers (EP, 2017).

Professional training has a significant impact on agricultural productivity. The higher the level of farmers' professional training, the greater the possibility of adopting and applying agricultural innovations properly (Närman, 1994). Over time, it has been noticed that the demand for agricultural products is changing and new opportunities are emerging for farmers: for example, increasing demand for high-value products, adopting advanced agricultural technologies, introducing new varieties of seeds, etc. To increase income and improve livelihoods, farmers also need to have a good grasp of the market situation and production systems (Ashby et al., 2008; Noor & Dola, 2011)

## MATERIAL AND METHOD

The main objective followed in this paper aims to analyze the structure of farm managers according to the degree of professional training (in connection with different dimensions) as well as its evolution in the period 2010-2020. The methods used to achieve this objective were the

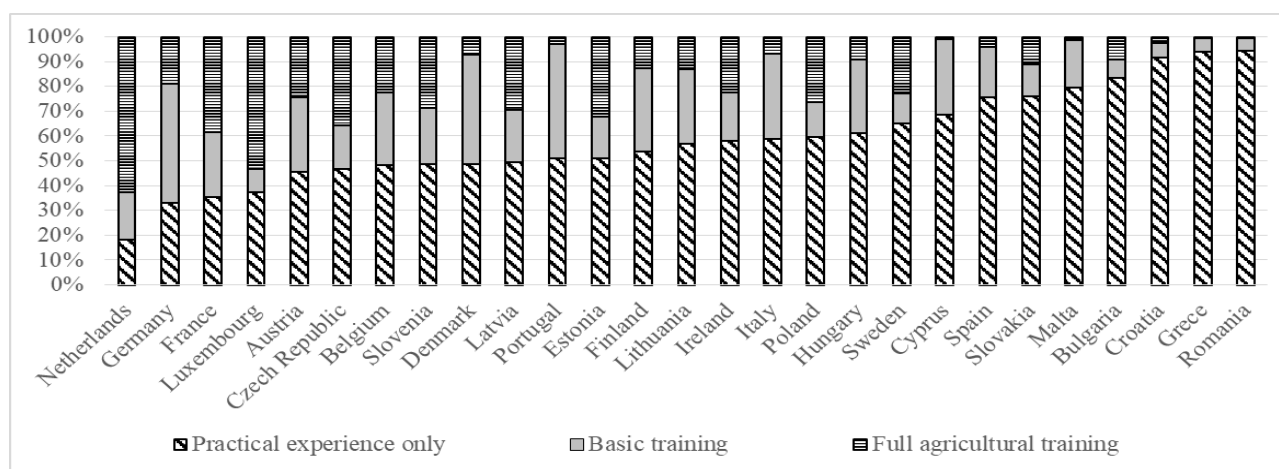
documentary analysis of works published in the country and abroad on this subject and the statistical analysis that used data collected by the National Institute of Statistics during the General Agricultural Censuses of 2010 and 2020.

In the statistics of the European Union (Eurostat), the training of the agricultural farm head is grouped into three classes: the data of the General Agricultural Census and the Agricultural Structural Surveys are collected in accordance with them. Thus, vocational training is classified into three types: elementary or basic training – refers to farmers who have completed any cycle of training in a school of basic agricultural education and/or in a training center that is oriented towards agricultural disciplines; practical experience - refers to the experience acquired by farmers through practical work on a farm; full agricultural professional training – refers to the completion of specific courses for agriculture, with a duration of at least two years after the completion of compulsory education completed in an agricultural school, college or university.

## RESULTS AND DISCUSSION

European farmers play an important role in providing safe and affordable food for nearly 500 million European citizens, while maintaining their countries' landscapes. Against the background of the aging of the agricultural population, generational renewal has become a difficult problem to solve. The agricultural sector needs to attract a new generation of farmers with the necessary skills to live and work in a constantly changing environment: they will need to produce much more efficiently while protecting the environment; they will have to contribute to the fight against climate change; they will have to meet society's demands for a healthy and balanced diet; and it will be necessary to keep pace with scientific and technological progress. It is therefore essential that farmers receive adequate agricultural training to adapt to a changing environment (EP, 2017).

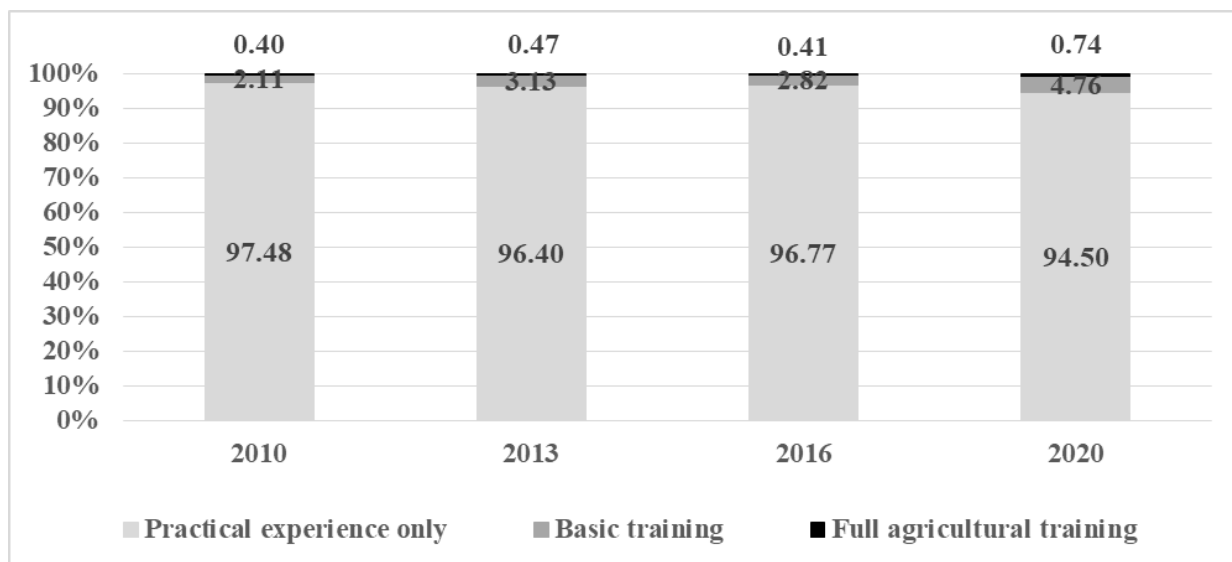
*The professional training of Romanian farm managers in the European context:* The professional training of farm managers is of significant importance because the success of a business depends primarily on the quality of the managerial act. Among the member countries of the European Union (EU), in 2020, Romania had the largest number of farms – 2,887,070 (31.84% of the total number of farm heads in the EU). They had the lowest level of professional training: 94.50% had only practical experience, 4.76% basic agricultural training and 0.74% full agricultural training (Figure 1).



**Figure 1. Distribution of farm managers according to professional training in EU Member States, in 2020**

Source: author's processing according to Eurostat, accessed 2023

*Evolution of the professional training of farm heads in the period 2010-2020:* Compared to 2010, the training of farm heads marked a slight recovery: thus, the share of fully trained farm heads, although it indicates a sub-unit percentage, registered an increase of 85 % (from 0.40% to 0.74%); the increase is even more significant (125.59%) in the case of the category of farmers who have basic agricultural training (from 2.11% to 4.76%). However, an overwhelming share of farm heads (over 90%) carry out their managerial activity based on the gained practical experience. Roughly, out of ten farm heads, less than one followed some kind of agricultural training, a trend that is maintained throughout the analyzed period.



**Figure 2. Distribution of farm heads by professional training, in the period 2010-2020**

Source: author's processing according to Eurostat, accessed 2023

Causes of the low agricultural training of farm heads could be the following: i) from a cultural point of view, a large part of the rural inhabitants believe that one does not need to have a special training to practice agricultural activities; ii) lack of knowledge and ignorance made many agricultural workers not concerned with agricultural training; iii) the training of farmers was not a priority of agricultural policies for a long time: work in agriculture was considered as unskilled labor; iv) many farmers are still reluctant to adopt new technologies or practices in their activity (Tita et al., 2022).

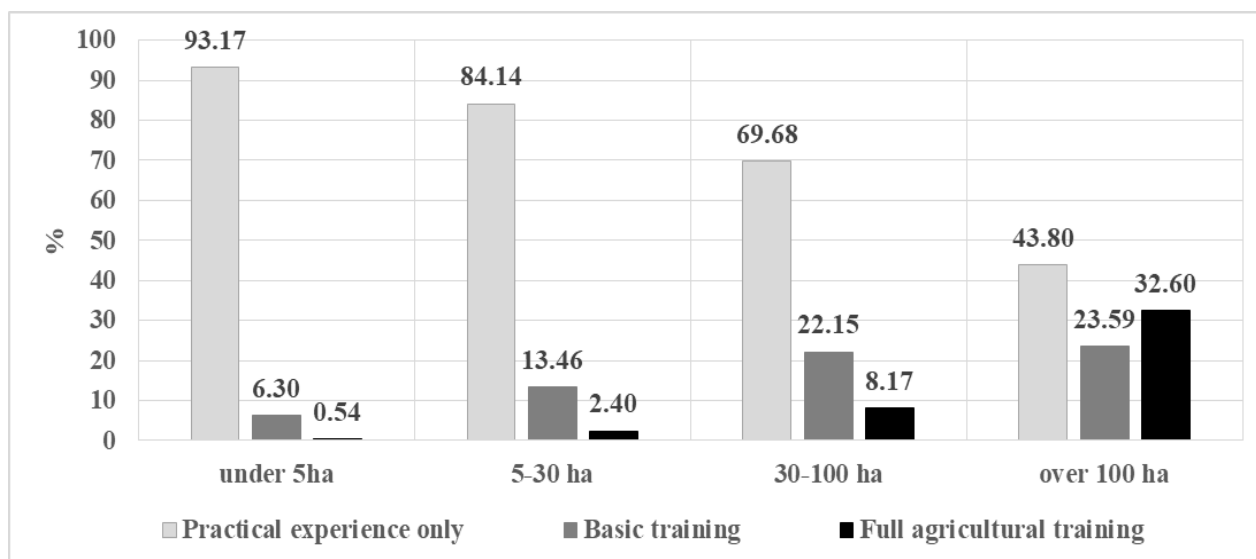
*Professional training of farm heads in 2020:* If we analyze farm heads by professional training and age group, a relatively homogeneous structure can be noticed in which farm heads with only practical experience are distributed, in significant proportions, in all five age groups. In the group of young farmers, who belong to the "under 35" age group, the highest percentage (2.10%) of people with complete agricultural training was recorded. The most important percentage of farmers with basic agricultural training work in the "34-44 years" and "45-54 years" groups (Table 1).

**Table 1. Share of farm managers by professional training and age group in Romania, in 2020**

	under 35 years	35-44 years	45-54 years	55-64 years	over 65 years	Total farms
Practical experience only	94.82	89.27	88.95	96.85	98.04	2728240
Basic training	3.08	9.79	10.45	2.37	1.41	137390
Full agricultural training	2.10	0.93	0.60	0.77	0.55	21440

Source: author's processing according to Eurostat, accessed 2023

The analysis of farm heads by professional training and utilized agricultural area (UAA) by size classes shows that in all size classes, the largest area is operated by farm heads who have only practical experience: the trend is decreasing from the "under 5 ha" to the "over 100 ha" group. Farm managers with complete agricultural training work large areas from the "over 100 ha" group: in this case, the trend is increasing, from the "under 5 ha" group to the "over 100 ha" group. The same situation is found in the case of farmers with basic agricultural training.



**Figure 3. Professional training of farm managers and UAA by size classes, in 2020**

Source: author's processing according to Eurostat, accessed 2023

The analysis of farm managers by professional training and economic farm size indicates that farmers who have only practical experience hold particularly high shares (over 90%) in the case of subsistence and semi-subsistence farms (Table 2).

**Table 2. Professional training of farm managers by economic size of farms, in 2020**

	Total farms	Practical experience only	Basic training	Full agricultural training
under 2000 euro	2092470	96.81	2.81	0.38
2000-7999 euro	611710	91.63	7.62	0.76
8000-14999 euro	90140	83.81	14.29	1.91
15000 - 249999 euro	88310	73.15	20.62	6.23
over 250000 euro	4420	44.12	19.00	36.88

Source: author's processing according to Eurostat, accessed 2023

Their share decreases as the size of farms increases: it is only 44.12% in the case of farms that are part of the group of large farms (over 250,000 euros). In the case of farmers with basic and full agricultural training there is an upward trend – from small farms to large farms.

## CONCLUSIONS

The presence of professionally trained farm managers in the agricultural sector is one of the strengths that will support the recovery of the Romanian agricultural sector in the years to come. The nature of work in agriculture is changing at a faster pace than ever before. In this context, the analysis of strengths and weaknesses, opportunities and restrictions of this field (SWOT analysis) highlights the following aspects:

Strengths	Weaknesses
<ul style="list-style-type: none"> <li>- improving the level of professional training of farm managers in the last ten years;</li> <li>- young farm heads (group under 35 years old), have the highest share in the full professional training group (2.10%);</li> <li>-farm managers aged between 35 and 54 years have the highest share in the basic professional training group;</li> <li>- as the physical and economic size of farm increases, the degree of professional training of farm heads is higher;</li> </ul>	<ul style="list-style-type: none"> <li>- farm managers who have practical experience only prevail in Romania’s agriculture – only one out of ten farmers attended some kind of professional training;</li> <li>- farm heads with basic and full training have among the lowest shares compared to the EU member states;</li> </ul>
Opportunities	Threats
<ul style="list-style-type: none"> <li>- the presence of European funds intended to support professional training programs for farm managers;</li> <li>- the existence of partnerships in the field of digitalization of the agricultural sector/digital innovation hubs, at the regional level;</li> <li>- the existence of broadband connections that ensure the access of farm heads to technology, information, e-learning, etc.;</li> </ul>	<ul style="list-style-type: none"> <li>- the need for diversified skills in the agricultural sector and the reduced adaptation of the current education system;</li> <li>- increasing discrepancies between large and small farms regarding the implementation of new technologies, with negative effects in the field of market competition and environmental protection;</li> <li>- reduced adaptability of the agricultural extension service and professional training in the process of transferring information to farmers;</li> </ul>

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