PERSPECTIVES AND TRENDS IN THE EVOLUTION OF AGRICULTURAL ACTIVITIES IN COUNTRIES WITH ADVANCED ECONOMICS

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Abstract: The article provides an analysis of the stage in which the Romanian agriculture is found as regards the performance and competitiveness, by reference to the results of North America - United States and Canada, as well as the European Union. The paper analyzes the main features of advanced agriculture in terms of agricultural efficiency, namely the North American (American and Canadian) production systems, as well as the current state of agricultural development in the Member States of the European Union.

Keywords: agriculture, economic policy, production, consumption, export, competitiveness

1. INTRODUCTION

This article aims to present a comprehensive image, resorting to direct comparisons on the distance that separates the Romanian agriculture at the present stage of development, in terms of performance level and competitiveness, from the agriculture in developed States, provides a comprehensive perspective on the development strategies of agricultural activities, which are addressed considering the trends observed in the evolution of agricultural activities in countries with advanced economy, and intends to report the realities of the current Romanian economy to the models of development of the countries with performing agriculture. It analyzes the main characteristics of the advanced countries' agriculture in terms of the effectiveness of agricultural activity, namely the production systems in North America (USA and Canada), along with the current state of development of agriculture in the member states of the European Union. These patterns are not only examples in terms of economic performance criteria (total production, yield per unit area, the degree of satisfaction of internal consumption needs, availability for export, etc.), but they also present similarities as regards a common cultural model, the existence of similar food habits, using a method of organization comparable or similar in many respects and, one very important thing, they use similar means of financing from many points of view.

2. ANALYSES

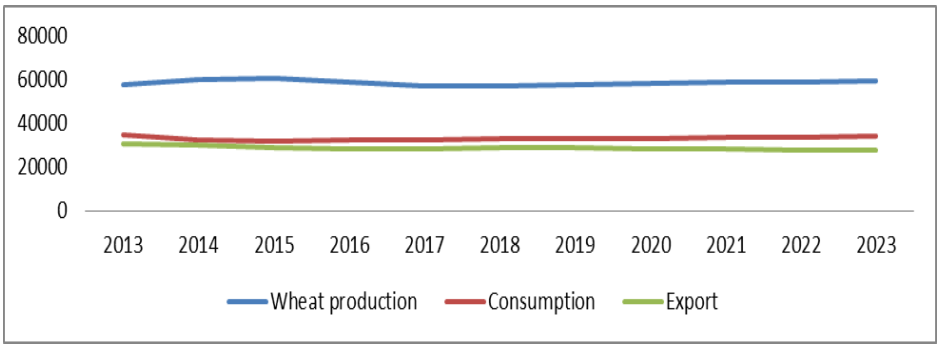
Particularities in the U.S. and Canada

Agricultural policies of the major northern hemisphere producers of the American continent, the United States and Canada, are permanently adapted to the internal and external context, but they pursue and ensure food security and safety of the population

of these countries at the same time. The U.S. enacted the law "Farm Safety and Rural Investments" - Farm Act - which provides the legal framework for the development of agriculture farm in the USA.

It's worth considering the existence of factors that favor the achievement of very large productions (we are talking in fact of the first world producer of grain), such as the existence of extensive areas that are amalgamated in holdings consisting of fertile soils with high biological yield, especially along the Mississippi and Missouri rivers, and along the coasts of Eastern California and the Pacific Ocean. Due to the natural conditions of climate and soil it can be obtained normally two or even three productions annually on the extensive land surfaces in the immediate vicinity of the Mississippi Delta, which explains in part such a big global production. Financial and logistic support made available by the government and U.S. economy make possible the achievement of high efficacy and high-yield agriculture (applies to all U.S. agricultural sectors), which makes American agriculture to be number one in the world from this point of view.

Naturally, the existing availabilities of U.S. wheat production may be capitalized on the markets of Europe, Asia, Europe and South America. Forecasts for 2014 and for the time horizon until 2022, as shown in Figure No. 1, indicate a preservation of the present level of production that represents 83-84% of the level of wheat production obtained in 2008. The explanation of this phenomenon comes from the changes occurring at the level of the powerful agricultural centers by taking over the effort of meeting the needs of internal consumption in the countries of the European Union from their own production, together with the development of export capacity in these countries. Another explanation is that the US intends to reorient primary agricultural production in the area of cereal grain to other cultures (an example would be maize), which offers the best opportunities for recovery, both in the domestic market of the USA, in view of a foreseeable increase in production of meat, particularly beef and pork, and to capitalize on this type of crop on the South American markets, especially in countries like Argentina and Brazil that are big beef producers.

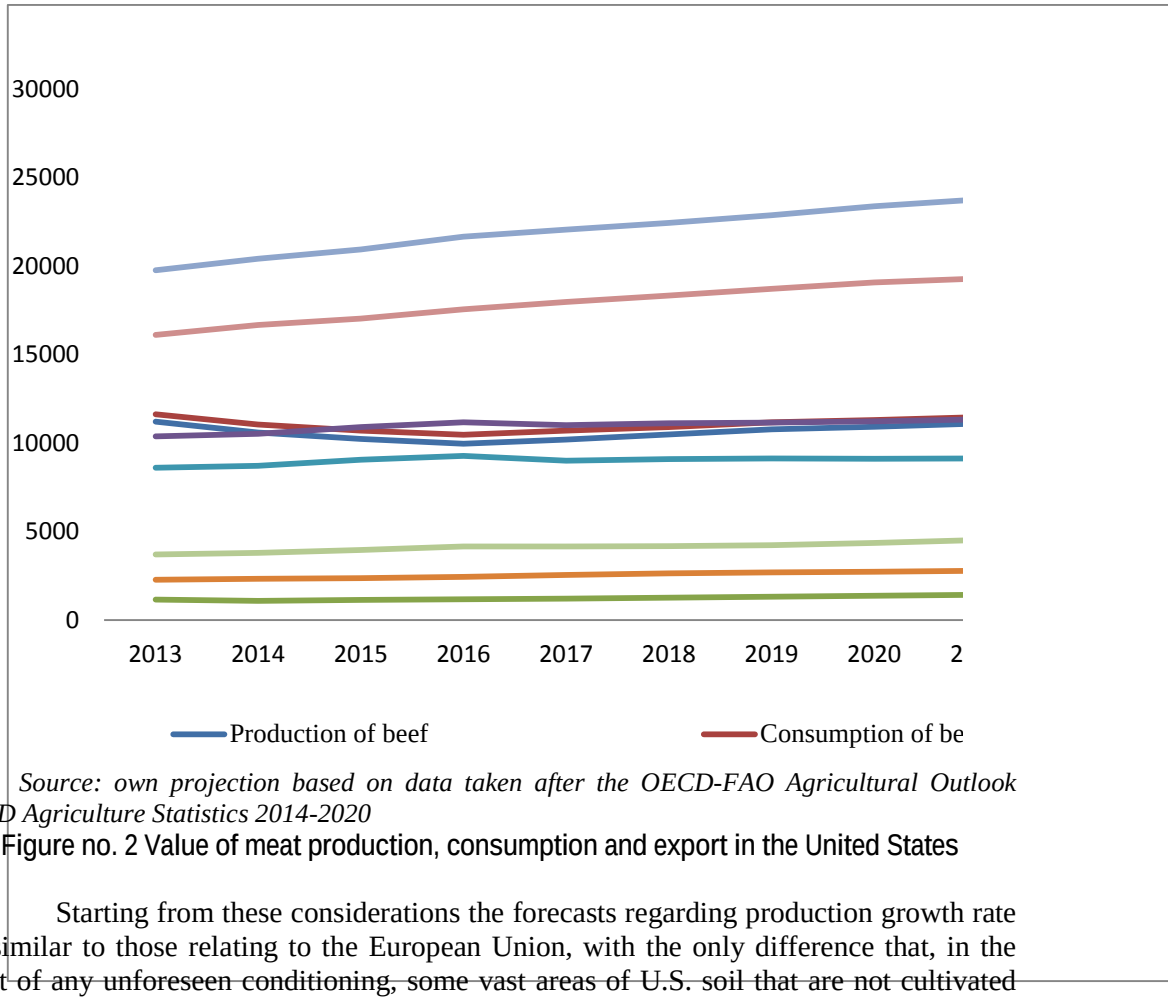


Source: own projection based on data taken after the OECD-FAO Agricultural Outlook OECD Agriculture Statistics 2014-2020

Diagram no. 1. Value of wheat production, consumption and export in the United States

Since the demographic changes in North America do not provide spectacular increases or decreases there are stipulated limits of the increase in food consumption between 1-1.2% correlated with the population's natural growth for the major grains (wheat, corn, sunflower), increases of 1,2-1,4% annually for food consumption of pork,

1,4-1,6% for beef and veal and a 2,2-2,4% annual rate of increase for poultry meat in accordance with Figure No. 2.



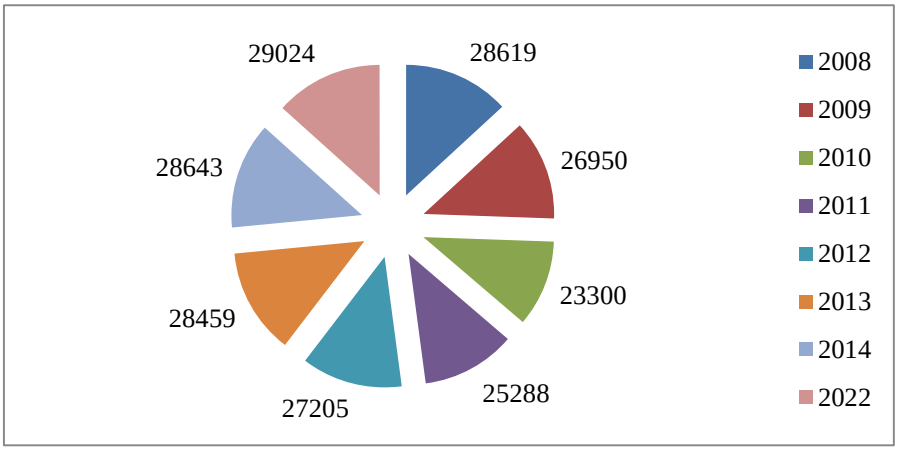
Source: own projection based on data taken after the OECD-FAO Agricultural Outlook OECD Agriculture Statistics 2014-2020

Figure no. 2 Value of meat production, consumption and export in the United States

Starting from these considerations the forecasts regarding production growth rate are similar to those relating to the European Union, with the only difference that, in the event of any unforeseen conditioning, some vast areas of U.S. soil that are not cultivated all the time due to economic reasons can be used to increase grain production.

Trends in wheat production for Canada can give us, through sizing, an insight into the impact that the global economic crisis has generated as regards the absorption rate of traditional markets, even if domestic consumption has remained within the same parameters as regards the bakery products that use wheat as raw material. The drastic decrease in the volume of demand in key export markets of Canada, i.e. South America, Europe and Russia, in conjunction with the decrease in the amount of cash generated by the cash crisis at global level, have led to an adjustment of production in accordance with market requirements. If we take 2008 as a reference year, we observe in Figure No. 3 that Canada's wheat production decreased in 2009 by 6 percent and in 2010 with 19%, relative to 2008, a total production of 23.3 mln tones, representing 81% of the production obtained in 2008. The existence of a long-term relationship with its traditional markets and the adoption of some detailed rules for payment for the value of exported products, which have allowed payment in installments (the lack of liquidity has been felt in 2011 as well and so far until present) have determined a resurgence in terms of grain production starting

from 2011 and in 2013 the output is comparable with the production level obtained in 2008. We must make clear that in the case of Canadian agriculture the cereals are cultivated at a latitude located around the Great Lakes levels and on the two coasts, thereafter at the same level of altitude for one production cycle, but, by applying intensive methods and technologies of high-yield, the low costs related to the production of cereals (wheat, barley, rye) make the products attractive for the emerging markets, the prices used being more easily adjusted depending on fluctuations of grain stock exchange.



Source: own projection based on data taken from OECD-FAO Agricultural Outlook: Best of 2013, OCDE Agriculture Statistics

Figure no. 3 Wheat production in Canada

Table no. 1.1 Value of grain production, consumption and export in Canada

Specification	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Wheat Production	33171	30445	31699	30200	30193	30450	30770	31426	32048	32640	32970
Wheat arable surface	10441	10119	11067	10477	10406	10420	10440	10597	10664	10724	10758
Wheat consumption	10221	9647	9628	9723	9900	10115	10248	10341	10508	10648	10744
Wheat Export	19676	20949	21325	21213	20878	20563	20859	21187	21372	21888	22289
Growth rate (%) regarding:		2014/2013	2015/2014	2016/2015	2017/2016	2018/2017	2019/2018	2020/2019	2021/2020	2022/2021	2023/2022
- value of wheat production		-8,22%	4,12%	-4,73%	-0,02%	0,85%	1,05%	2,13%	1,98%	1,85%	1,01%
- wheat arable surface		-3,08%	9,36%	-5,33%	-0,67%	0,13%	0,20%	1,50%	0,64%	0,56%	0,32%
- wheat consumption		-5,62%	-0,19%	0,98%	1,83%	2,17%	1,31%	0,91%	1,62%	1,33%	0,90%
- wheat Export		6,47%	1,79%	-0,53%	-1,58%	-1,50%	1,44%	1,57%	0,87%	2,42%	1,83%

Value of other grain production	26100	24553	24914	26259	26534	26730	27063	27059	26991	27122	27099
Other grain arable surface	5379	5219	5371	5692	5735	5756	5820	5786	5723	5686	5632
Other grain consumption	20859	21039	20938	21159	21351	21515	21559	21748	22001	22263	22732
Other grain export	3632	5106	4498	5465	5647	5894	6319	6156	5916	5896	5611
Growth rate (%) regarding:		**2014/2013**	**2015/2014**	**2016/2015**	**2017/2016**	**2018/2017**	**2019/2018**	**2020/2019**	**2021/2020**	**2022/2021**	**2023/2022**
- Value of other grain production		-5,93%	1,47%	5,40%	1,05%	0,74%	1,25%	-0,02%	-0,25%	0,48%	-0,09%
- Other grain arable surface		-2,97%	2,92%	5,96%	0,76%	0,38%	1,11%	-0,59%	-1,08%	-0,65%	-0,95%
- Other grain consumption		0,86%	-0,48%	1,06%	0,91%	0,77%	0,20%	0,88%	1,17%	1,19%	2,11%
- Other grain export		40,56%	-11,91%	21,50%	3,32%	4,38%	7,22%	-2,59%	-3,90%	-0,34%	-4,82%

Source: Own projection after OECD-FAO Agricultural Outlook 2014-2020, OECD Agriculture Statistics

Developments and features specific to the European Union

From its inception, the EU has been concerned with finding policies to adjust agricultural community programs by taking into account mainly two characteristics of world agriculture:

- on the one hand the trend of liberalization of agricultural products world trade;
- on the other hand, the need to give the new Member States time to adapt in order to harmonize their laws with the European legislation in force in order to avoid creating excessive stocks in the old Member States.

The Common Agricultural Policy promoted in the European Union countries bears the landmark of the measures initiated by the European Union Council in 2003 and known as the reform of the Common Agricultural Policy, or the "FISHER" reform (at that time the Agriculture Commissioner of the EU). The reform's main objective is to ensure a legislative and financial balance that aims at supporting and preserving the rural environment and the space of European villages by using the transfer of some funds which were originally approved in pillar I of the CAP (the pillar devoted exclusively to agriculture) to the pillar II aimed preferentially at rural development. The reform also allows greater freedoms to farmers to produce what the free market demands, narrowing down the somewhat related charges or import quotas imposed on Member States.

Both the process of enlargement to the East, and the process of negotiating with an enlarged European Union have induced the Common Agricultural Policy reforms and proposals for continuing their application. We present from the documents adopted by the European Union Council, the specific objectives of the new Common Agricultural Policy as set out in all Member States[1]:

[1] Agriculture in the European Union. The common agricultural policy (Cap), www.scritub.com

- ✓ supporting both the interests of consumers and the interests of agricultural producers;
- ✓ protecting in a higher degree the rural economy and environment;
- ✓ maintaining the financial discipline through strict classification in the scales of expenditure;
- ✓ facilitating the negotiations with the WTO on trade of agricultural products;
- ✓ boosting the competitiveness of farmers on both domestic and foreign markets;
- ✓ stimulating the application of „environment-friendly" technologies;
- ✓ production's orientation towards quality and benefit of regional area;
- ✓ preserving the specific character of rural areas.

The Common Agricultural Policy aims to maintain and develop a modern agricultural system, able to provide a decent standard of living for the agricultural community and a large supply of agricultural products at reasonable prices for consumers, as well as the free movement of products within the European Union.

Without having to take into account the pessimistic analyses regarding the dramatic fall of birth rate in EU countries and therefore the demographic decline of the EU Member States, is expected for the current parameters of the food intake of the population to be maintained at the same level, in particular on the basis of positive changes, at the same time balancing in certain parts of Europe the demographic decline through the migration, mainly due to economic conditions, of a significant part of the population of EU countries or from outside the space of Central and Eastern Europe to the western part of the continent.

However, any changes in the productions of main crops and categories of animals, without underestimating the real capacity of production to increase, are and will be the direct consequence of the intensive factors of production which can transmit their productive potential of growth through technological discoveries that science and technology make available to agriculture (improvements in plants and animals' genetics, growth of productivity through chemical means, improvement of agricultural machinery and equipment).

As a general feature of the EU countries' agriculture, since the second half of the 20th century and in some countries even earlier than in other countries, the extensive ways of increasing agricultural production were gradually abandoned as the population natural growth rate began to decrease gradually after about two decades from the WWII. More at the point, the expansions of arable land mainly through deforestation, but also through changes in geographical areal, were no longer applied starting with the mid-70's of the last century in the countries of Eastern Europe, as in Western European countries these extensive methods were no longer permitted since the period before the WWI. Moreover, the living standards in Europe and the need for environment conservation exclude extensive practices for enlarging the agricultural surfaces to the detriment of natural areas or rural localities.

Arable areas in the European Union countries predict light annual growth (e.g. 0.71% for 2014, 1.71% in 2015, 0.3% for 2019 and 2020, according to table nr. 2), such increase of arable surfaces being obtained by the reintroduction in the agricultural circuit of some degraded lands (former quarries for coal exploitation at the surface, ramping the ground, lands under which have been executed drillings for oil or natural gas) and less frequently in the case of controlled deforestation and carried out only from fair necessity and not for reasons related to the expansion of arable surfaces.

Table No. 2 Arable surfaces in the countries of the European Union

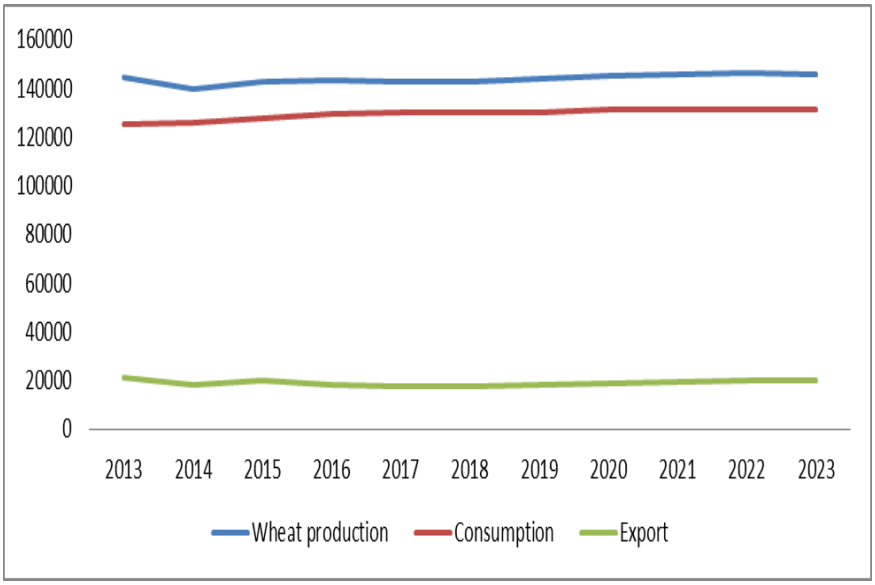
Elements/Years	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023
Wheat production	144736	139608	142667	143070	142893	142680	143868	144956	145497	146076	145823
Wheat arable area	25875	26058	26504	26524	26412	26260	26350	26435	26447	26455	26393
Wheat consumption	125232	125590	127535	129206	129932	130244	130320	131442	131253	131306	131208
Wheat export	21400	18477	19999	17992	17894	17420	18179	19085	19479	20135	20231
Growth rate %		**2014/2013**	**2015/2014**	**2016/2015**	**2017/2016**	**2018/2017**	**2019/2018**	**2020/2019**	**2021/2020**	**2022/2021**	**2023/2022**
Wheat value production		-3,54%	2,19%	0,28%	-0,12%	-0,15%	0,83%	0,76%	0,37%	0,40%	-0,17%
Wheat arable area		0,71%	1,71%	0,08%	-0,42%	-0,58%	0,34%	0,32%	0,05%	0,03%	-0,23%
Wheat consumption		0,29%	1,55%	1,31%	0,56%	0,24%	0,06%	0,86%	-0,14%	0,04%	-0,07%
Wheat export		-13,66%	8,24%	-10,03%	-0,55%	-2,65%	4,36%	4,98%	2,07%	3,37%	0,48%
Other cereals value production	159590	160782	161225	162067	163402	164887	165990	166728	167521	168448	169338
Other cereals arable area	31957	31691	31564	31513	31523	31563	31542	31475	31424	31384	31358
Other cereals consumption	155615	158029	157962	157644	159199	161272	163880	166097	166869	167340	167551
Other cereals export	8010	7611	7501	9175	9510	9524	9243	9094	9171	9266	9616
Growth rate % :		**2014/2013**	**2015/2014**	**2016/2015**	**2017/2016**	**2018/2017**	**2019/2018**	**2020/2019**	**2021/2020**	**2022/2021**	**2023/2022**
The value of other cereals production		0,75%	0,28%	0,52%	0,82%	0,91%	0,67%	0,44%	0,48%	0,55%	0,53%
other cereals arable area		-0,83%	-0,40%	-0,16%	0,03%	0,13%	-0,06%	-0,21%	-0,16%	-0,13%	-0,08%
Other cereal consumptions		1,55%	-0,04%	-0,20%	0,99%	1,30%	1,62%	1,35%	0,47%	0,28%	0,13%
Other cereals consumptions		-4,98%	-1,45%	22,32%	3,66%	0,15%	-2,96%	-1,60%	0,84%	1,04%	3,77%
The production value of rice	1676	1783	1790	1801	1809	1814	1814	1815	1821	1826	1830
Rice arable area	431	460	457	456	455	454	451	448	446	444	443
Rice consumption	2606	2652	2674	2702	2732	2761	2787	2808	2833	2859	2888
Export rice	100	100	103	102	101	100	98	99	98	97	95
Growth rate (%):		**2014/2013**	**2015/2014**	**2016/2015**	**2017/2016**	**2018/2017**	**2019/2018**	**2020/2019**	**2021/2020**	**2022/2021**	**2023/2022**
The production value rice		6,38%	0,42%	0,61%	0,43%	0,30%	-0,02%	0,05%	0,33%	0,26%	0,24%
Rice arable area		6,84%	-0,65%	-0,24%	-0,24%	-0,36%	-0,65%	-0,63%	-0,41%	-0,39%	-0,39%
Rice consumption		1,75%	0,84%	1,05%	1,11%	1,08%	0,92%	0,77%	0,90%	0,91%	1,02%
export rice		0,82%	2,70%	-0,83%	-0,78%	-1,79%	-1,30%	0,30%	-0,74%	-1,05%	-2,09%

Source: projection after OECD-FAO Agricultural Outlook 2014-2020, OECD Agriculture Statistics

Under these conditions, the consumption of wheat as well as other grains in the EU member countries have an average annual growth in the period 2013-2023 under one percent[2], as shown in Figure No. 4 in strict correlation with the demographic projections, based on the presumption that obtaining production above this level would result only in wastage of financial resources and formation of stocks of grain without assured

[2]*OCDE-FAO Agricultural Outlook 2014-2020, OCDE Agriculture Statistics*

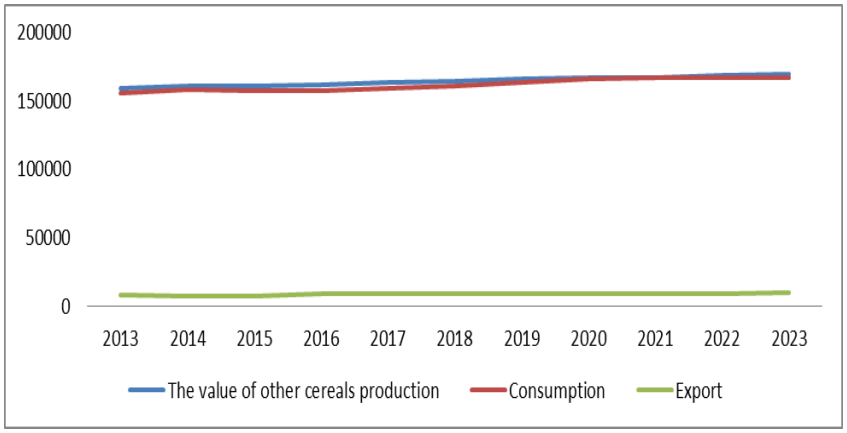
distribution for which the costs of preparation and storage would not do anything else than burden the production costs pointing out even more the further waste of financial resources.



Source: own projection based on the OECD-FAO Agricultural Outlook 2014-2020, OECD Agriculture Statistics

Figure no. 4 The value of wheat production, consumption and export of in the U.E.

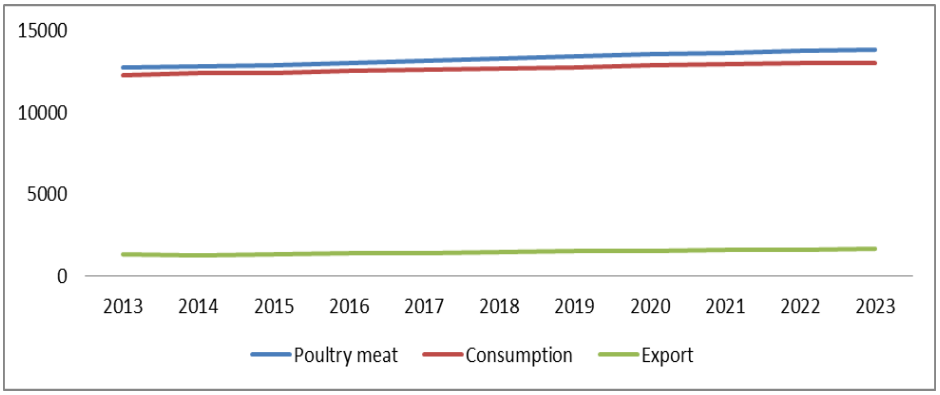
Moreover, the European Union countries have projected increases of export with 8.24% for 2015 but also reductions ranging from 0.55% per year up to 10% per annum for the period 2016-2018 for the production of wheat, or 1.6% up to 3% per annum for the period 2018-2019 in the case of corn production (see Figure no. 5), a situation meant to be improved starting with the 2020' as it is likely to be taken into consideration the resumption of direct trade between the EU and the states belonging to the former Soviet space.



Source: own projection based on the OECD-FAO Agricultural Outlook 2014-2020, OECD Agriculture Statistics

Figure no. 5 The value of other grains' production, consumption and export in the U.E

The annual increase in food consumption for pork and poultry meat are laid out for all the time horizon 2013-2023, food consumption of meat following an increase of 0.3%[3] on average throughout the period for pork and 0.6% on average for poultry meat, as shown in Figure No. 6. In the case of exports of pig meat and poultry meat, the growth rates over the next approximately ten years record average annual growth rates of 1.5% for pork, respectively, 2.8-3% for poultry meat.



Source: own projection based on the OECD-FAO Agricultural Outlook2014-2020, OECD Agriculture Statistics

Figure no. 6 The value of poultry meat production, consumption and export in the U.E

3. CONCLUSIONS

The presentation of levels and degrees of economic performance of the agricultural sector in countries with advanced economy gives us the opportunity to acknowledge by comparison, in the case of Romania, the stage at which we find ourselves in relation to the performance level of our own agricultural potential and the degree to which the Romanian agriculture, using the means and resources existing at this time, meets the needs of food consumption or brings its contribution to the creation of gross domestic product (GDP).

This article should make you see that one of the causes for the existence of an appreciable gap between Romanian agriculture and that of North America and countries of the European Union lies precisely in the lack of continuity of economic policies implementation, harmonized with realistic models proposed in the European cultural space, application of some adventurist and utopist models for the organization of agricultural activity that brought along negative repercussions after their application with obstinacy during a historical period of forty years.

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