

## AGRI-FOOD PRODUCTS AND AGRICULTURAL RAW MATERIALS

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**Abstract:** In our workpaper we will present the relationship between agri-food products and raw materials, but also the aspects of cereal production in Romania compared to other countries. The article will refer to both cereal quotations and some characteristics that will highlight the current situation in Romania and a comparison with EU member countries. Also the paper will examine various internal and external factors that represent a fundamental factor of the market, as well as the world market level. The article will also present its activity as producers, consumers, importers and exporters in the agricultural field and a short comparison in the same field with other EU member countries.

**Key words:** agriculture, agri-food products, raw materials, biological product, biological asset, corn, wheat, accountancy

## INTRODUCTION

The agricultural area of Romania stretches to 14.8 million hectares, where almost 30% of the country's population works in this area. Romania ranks 4th in terms of cultivated area, ranking in the same place with the United Kingdom, followed by France, Germany and Poland [12].

The most recent registration of Romania in this field is from 2018 when it managed to harvest around 10.2 million tonnes of wheat and in 2009 when maize production rose to 11.6 tonnes, Romania being ranked right on the spot 3 as the largest corn producer in the EU (2007) [15]. Analyzing different statistics and studies, agriculture has had a lot of variations, these being largely influenced by meteorological factors. With a temperate transitional continental climate, also specific to Central Europe, we could say that the environment and soil should be for the benefit of agronomical engineers, the soil being rich in minerals facilitating some excellent conditions for the cultivation of various cereals and expressly wheat and of corn [2].

Table 1.

## The situation of the wheat

Year	2011	2010	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Production (million tonnes)	7,1	5,6	5,2	7,1	3	5,5	7,4	7,5	2	4,2	7,8	4,2
The cultivated area (mil./ha)	1,9	2	2,2	1,9	1,9	2	2,5	-	-	-	-	-

Source: Own elaboration

Table 2.

## The situation of the maize

Year	2011	2010	2009	2008	2007	2006	2005	2004	1985
Production (million tonnes)	11,6	9,1	5,2	7,8	3,6	8,6	10,4	15	12
The cultivated area (mil./ha)	2,6	2,2	2,1	2,6	2,1	2,5	-	-	-

Source: Own elaboration

In our opinion, formed from various studies, we realized that there are 3 large-scale factors that influence / affect the characteristics in the different areas of agriculture [7].

The first of these would be the earth, which plays a fundamental role in the main production process, this being represented by fertility.

The second of these would be the natural conditions, affecting the entire production process (uncontrolled factor) at will.

The third would be natural and biological factors (uncontrolled factors) that have an effect that determines the entire production cycle result.

Due to the favorable presence of the 3 mentioned factors, in 2018, Romania had a total cereal production of approximately 27 million tonnes, thus having some records at historical level on wheat, corn, barley and others [14].

### MATERIALS AND METHODS

The average fertilizer consumption per asset per hectare is below 70 kg, while at EU level it is somewhere between 200 and 250 kg on average [11].

For the harvest to be rich and the results to be as productive as possible, proper care of the entire process is required, from planting to harvesting. The earth must be plowed, irrigated and treated against various external factors that could disrupt the environment conducive to the development of cereals [13].

Following the various processes, the cereals are collected with the help of different machines and will then be subjected to the industrial processing process [3]. Cereals are not consumable as such (except animals), they are processed and then marketed in various products.

By its nature, wheat has various methods of classification [2]:

- Depending on the date it is sown
- Depending on the hardness of the grain
- Depending on the quality group in which the grain is included
- Depending on the quality of the flour
- Depending on the type of wheat

Its price can also be evaluated according to one of the above classifications, it is evaluated according to the quality and the preparation method [4].

**Table 3.**

#### Criteria of classifying the wheat

Date of the Sown	Hardness of the Wheat Coils	Quality	Quality of the Flour
Autumn	Hard	Group 1	Universal flour
Spring	Soft	Group 2	Bakery flour
	Durum	Group 3	Flour with growth agent
		Group 4	Pastry flour
			Semolina
			Durum flour

*Source: own research*

Also, corn has certain classification methods, such as:

- For its use: human consumption, animal consumption
- According to his condition: processed / unprocessed [10].
- What would be the main benefits of agri-food products [1]?

This would be one of the most frequently asked questions, both consumers and some producers often ask themselves this question, the answer being quite large and complex, the main benefits being [5]:

- There is a favor in the field of agricultural production diversification, both in Romania and abroad;
- The disadvantaged areas or at the edge of the company will benefit from assistance in the field of rural development;
- The market will benefit from quality products, so it can be easily fulfilled the entire demand on the market;
- The degree of awareness, the level of consumer information will be a more varied and much better informed;
- Each country has its own level of production, thus appears the level of guarantee where the competition between the producers is observed in close conditions.

**Table 4.**

**Top 10 producers of the grain maize and others**

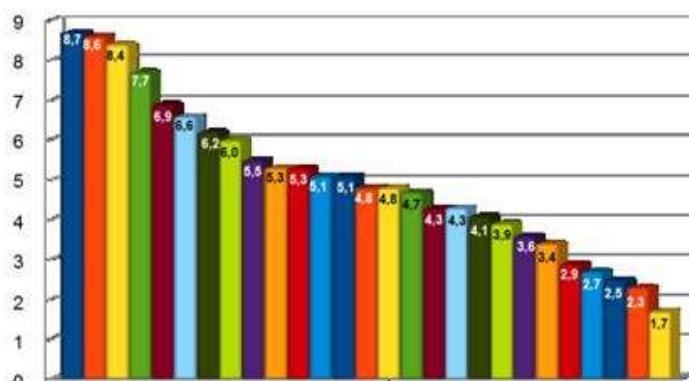
Country	Production ('000 t)	Area ('000 ha)	Yield (t/ha)
USA	316,165	32,960	9.6
China	177,549	32,520	5.5
Brazil	56,000	12,915	4.4
Mexico	23,302	7,148	3.3
Argentina	22,677	2,903	7.8
Indonesia	18,364	4,143	4.4
India	14,060	7,180	2.0
France	13,975	1,571	8.9
South Africa	12,815	2,742	4.7
Ukraine	11,953	2,648	4.5
<b>Others</b>			
Romania	9,042	2,094	4.3
Italy	8,828	926	9.5
Hungary	6,967	1,061	6.6
Germany	4,073	463	8.8
Spain	3,179	320	9.9
World Total	844,358	161,821	5.2

Source: *Fao Statistics*

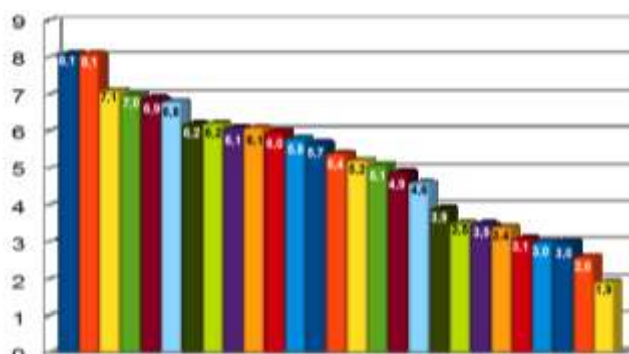
According to some studies, Romania, at EU level, ranks No. 1 in corn for the number of grains depending on the area of cultivation and ranks second in production, France being the champion in this field [9]. At the same time, regarding wheat, Romania ranks in 5th place both in terms of productivity and in terms of cultivated area [8].

From the point of view of the quotations, the wheat is found at the price of 178,50 EURO / tonne with a constant of the tendency of 0.42%, while the maize is found constantly at the same tendency of 0% increase-decrease, at the price of 157 EURO / ton [6].

Being a country classified well from an agricultural point of view, Romania is both an exporter and an importer of cereals. In 2018, it exported over 2.1 billion euros, of which over one billion euros was totaled by the export of wheat and corn. At the same time, in terms of imports from Romania, somewhere around 116.6 million euros came from EU countries [7].



**Figure 1. The average yield of wheat production in the European Union (tonnes/ha), starting with Ireland (the first) and ending with Cyprus (the last)**



**Figure 2. The average yield of cereals production in the European Union (tonnes/ha), starting with Holland (the first) and ending with Cyprus (the last)**

### RESEARCH RESULTS

During the month of June 2018, the following operations take place regarding the activity in the agri-food sector [4]:

- Wheat / corn seeds are purchased from suppliers
- To buy, to receive and subsequently to pay the scooter (including VAT)
- Chemical fertilizers (including VAT) are purchased and consumed
- Wheat / corn seeds are consumed
- A new tractor (including VAT) is purchased from the supplier of fixed assets based in France, which is subsequently paid from the bank account
- An advance payment is made (including VAT) for a merchandise
- The expense related to the lease for the 2015-2016 agricultural year is recorded in the total amount (including VAT)
- The unfinished / in progress production is being recorded at the end of April 2018 (for wheat / maize)

1) Seed acquisition:

3025	=	401
“Seeds and planting materials”		“Providers”
4426		4427
“VAT deductible”		“VAT collect.”

2) Acquisition and reception of diesel:		
%	=	401
3022		“Providers”
“Fuel”		
4426		
“VAT deductible”		
3) Payment of diesel:		
401	=	5121
“Providers”		“BAL”
4) Purchase of chemical fertilizers:		
%	=	401
3028		“Providers”
“Other mat. supplies”		
4426		
“VAT deductible”		
5) Consumption of chemical fertilizers (based on a consumer receipt):		
6028	=	3028
“Spend. Looking at other mat. Consumption”		“Other mat. Consum.”
6) Wheat / corn seed consumption:		
6025	=	3025
“Costs on seeds and planting materials”		“Seeds and mat. plantable”
7) Purchase of the tractor:		
2131	=	404
“Technological equipment”		“Real estate providers”
4426		4427
“VAT deductible”		“VAT collected”
8) Payment of the purchased equipment:		
404	=	5121
“Providers”		“BAL”
9) The advance for the goods:		
%	=	401
4091		“Providers”
“Suppliers-debtors for shopping...”		
4426		
“VAT deductible”		
10) Expenditure on the lease related to the agricultural year 2015-2016:		
%	=	401
612		“Providers”
“Costs with royalties...”		
4426		
“VAT deductible”		
11) Registration of unfinished production at the end of April 2017 (for wheat / corn)		
331	=	711
“Products in execution”		“Related revenues...”

## CONCLUSIONS

In conclusion, I support the idea that agriculture plays a very important role in the economy, the raw materials and finished products being the result of the exploitation of resources. The future quotations, both in Romania and in the rest of the EU member states

will always depend on the external factors that determine the cereal production, thus, in the future I cannot specify a forecast because there is a multimer of variables.

The agriculture itself is in a continuous development, thus, the study carried out by us is based on some data and information from the previous years, but the future data regarding the price, the territorial surface and the production can be in a continuous change, which demonstrates continuous development of agriculture both in Romania and abroad.

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