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# THE STRUCTURE OF AUTHORIZED SPACES FOR THE STORAGE OF AGRICULTURAL PRODUCTION IN ROMANIA 2014

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**Summary:** *This work aims to present a study that consisted of researching, interpreting of statistical data, combined with theoretical aspects that allowed a brief but pragmatic analysis of storage spaces existing in Romania at present and assessing the deficit storage space of the total vegetal production of the main categories of vegetal crops in 2014. Thus, knowing these matters there can be developed national strategies to prevent imbalances and distortions which can appear in the correct formation that prices of crop production, representing a real advantage for agricultural producers in Romania. Thus, at the end of 2014 in Romania for a total of 25,602,657 tons of total agricultural production of the main crops and a total storage capacity of 20,817,496 tons, according to the working hypothesis mentioned, it follows a deficit of 4,785,161 tons of storage.*

**Keywords:** *warehouse, storage deficit, agricultural production, Romania*

## MATERIAL AND METHOD

The performance of the study was to research, analyze and interpret statistical data. These, in conjunction with theoretical aspects extracted from specialized literature have estimated a deficit of storage space in the total vegetal production to the main categories of crops in 2014.

The data required for such analysis were collected through public institutions, including the National Institute of Statistics and the Ministry of Agriculture and Rural Development.

To determine the estimated deficit storage of total plant production to the main categories of crops, 2014 was considered as point 0, and all production harvested was stored until the end of the year and was not recovered.

This deficit of storage of the total agricultural production resulted from the difference of total production by category of culture and assessing the storage capacity for each category of culture in part.

The storage capacity for each category of crops was performed by extrapolating the production share by category of vegetal crops presented in tables / graphs in the paper.

It should also be remembered that it was not taken into account the occupancy of the deposits in pre-harvest and post-harvest periods or no period's sale.

## INTRODUCTION

In the agricultural sector in Romania farmers are divided into two categories, the small and medium ones using about half of the total farming land and the big farmers that exploit the other half of the agricultural area of the country.

The imbalance that creates in terms of material and technical base and the technologies used between these two categories of farmers lead to imbalances and distortions in the correct formation of prices of crop production.

The storage capacity is essential in order to hold the role of a major player in the market. Holders of deposits (silos) impose a price they impose a purchase price of products from small and medium agricultural producers, and later they transact at higher prices.

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Based on these considerations, this paper presents an analysis of the existing storage facilities in Romania today and the storage deficit of the total vegetal production of the main categories of crops in 2014. Thus, knowing these aspects there may be developed national strategies to prevent imbalances and distortions which can appear in the formation of vegetal crop production prices, representing a real advantage for agricultural producers in Romania.

## RESULTS AND DISCUSSIONS

Analyzing the total agricultural production of the main crops produced in Romania in 2010 - 2014 we can find that it had an increasing trend, except in 2012 when there is a decrease in most cultures studied. Except the category of oily plants whose acreage fell in 2012, the other categories of crops this decrease in total production was due to unfavourable climatic conditions which are either inadequate cultivation technologies applied (Table no. 1).

Table no. 1

The situation of total vegetal crop production for main crops in Romania during 2010 -2014

Main crops	Years				
	2010	2011	2012	2013	2014
	Unit size: tones				
<b>Grain cereals:</b>	<b>16712883</b>	<b>20842160</b>	<b>12824138</b>	<b>20897076</b>	<b>22070736</b>
- Wheat	5811810	7131590	5297748	7296373	7584814
- Barley	777074	712830	540933	930515	1085573
- Two-row Barley	533961	616862	445428	611732	626936
- Oats	304462	375855	338998	373783	381626
- Grain Maize	9042032	11717591	5953352	11305095	11988553
- Other productions	243544	287432	247679	379578	403234
<b>LEGUMINOASE PENTRU BOABE:</b>	<b>61344</b>	<b>76830</b>	<b>62934</b>	<b>74214</b>	<b>71363</b>
- Shelling peas	39677	55076	45878	54590	51017
- Beans	21059	21351	16603	18861	19748
- Other productions	608	403	453	763	598
<b>OILY PLANTS:</b>	<b>2377651</b>	<b>2686860</b>	<b>1667601</b>	<b>2966621</b>	<b>3460558</b>
- Sunflower	1262926	1789326	1398203	2142087	2189309
- Cole	943033	738971	157511	666097	1059121
- Soya Beans	149940	142636	104330	149931	202892
- Other productions	21752	15927	7557	8506	9236

Following the share of total vegetal crop production in the main categories of crops in Romania it is noted that in the period analyzed cereal grains (wheat, barley, oats, maize) occupy the largest share in the total crop production for main crops made at the country level, varying from 87.26% in 2010 to 88.29% in 2011, 88.11% in 2012, 87.30% in 2013, 86.20% in 2014 respectively (Figure no. 1).

In terms of total production of oily plants, it held a 12.41% share between 2010, 11.38% in 2011, 11.46% in 2012, 12.39% in 2013 registering a 13.52% slight increase from 2014 (out of crop production analyzed). Although they are important crops, grain legumes for the period 2010-2014, occupied small share in total crop production analyzed as follows: 0.32% in 2010, 0.33% in 2011, 0.43% in year 2012 0.31% 2013 0.28% 2014 (Figure no. 1).

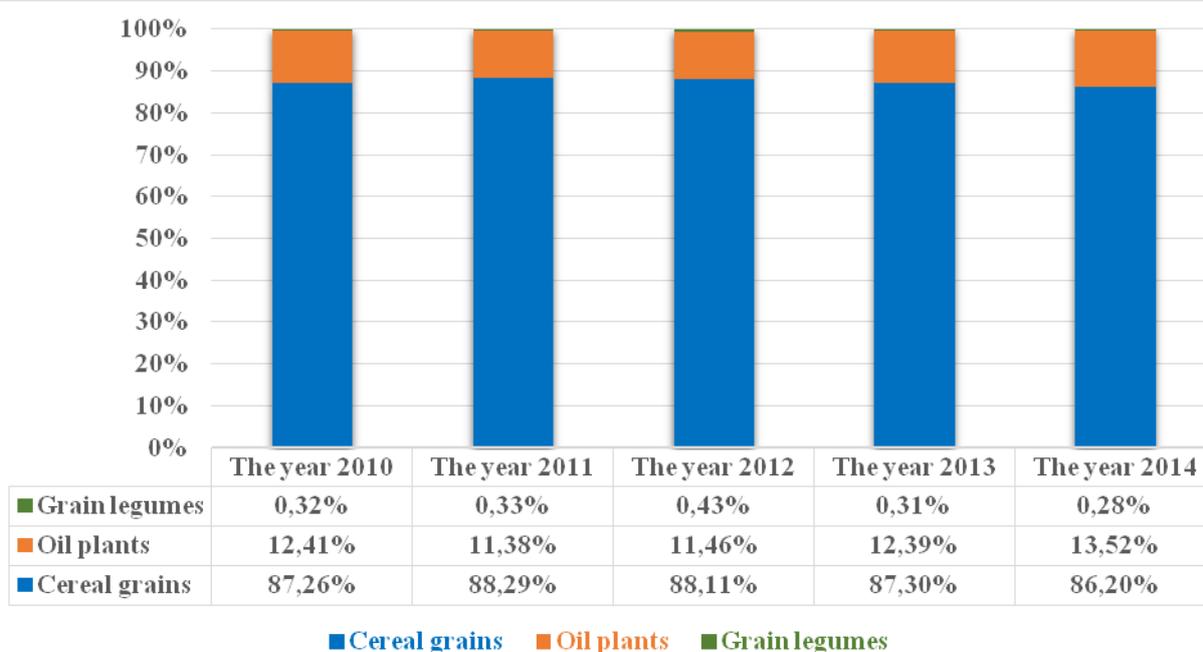


Figure no. 1 – Distribution of total crop production for the main categories of crops in Romania, in the period 2010 - 2014 (%)

Analyzing the distribution of agricultural production in major grain cereals, maize is highlighted in all the years that records a majority share of 46.42% in 2012 to 56.22% in 2011 and 54.32% in 2014 at the distance of about 20% of corn production is localized production of wheat with weights ranging between 34.22% and 41.31% in 2011 of total 2012 cereal grain production. Harvests crops of barley, oats and barley had a relatively constant share of total cereal grain production in the period analyzed (Figure no. 2).

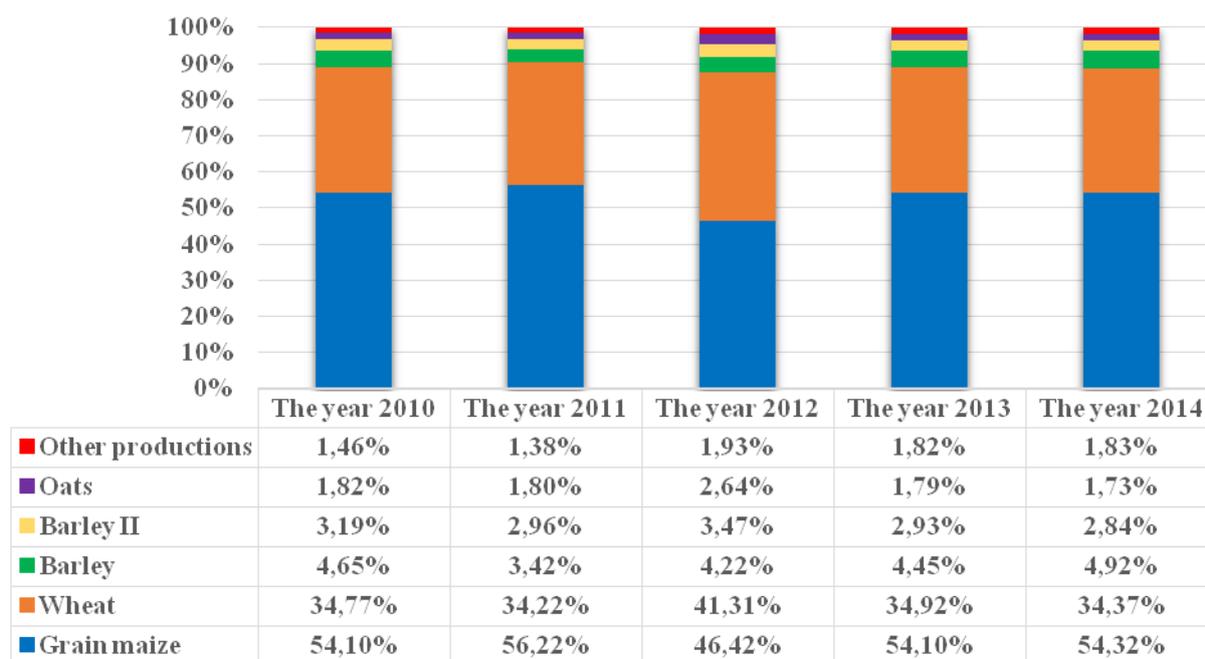


Figure no. 2 - Distribution of crop production for the main crops of cereal grain in Romania, in the period 2010 -2014 (%)

Regarding legumes crops, the largest share of total output a record crop of peas varying between 64.88% and 73.56% in 2010 to 2013, followed by bean culture (Fig. 3).

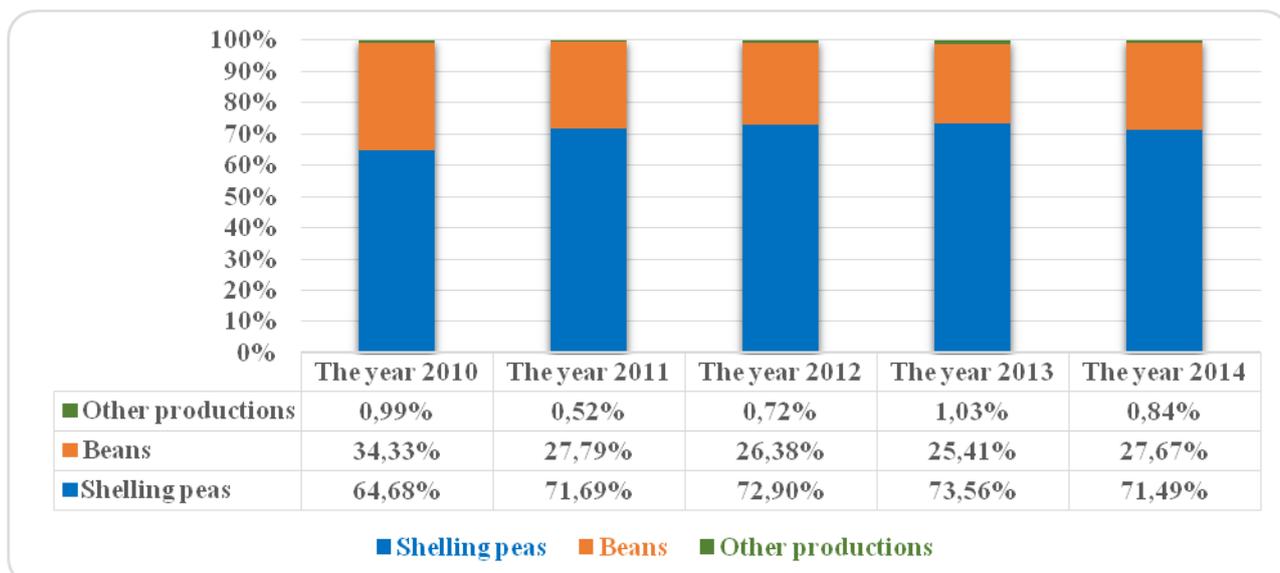


Figure no. 3 - Distribution of crop production for the main crops of legumes in Romania, in the period 2010 -2014 (%)

Analyzing the distribution of total output in the major oil crops, we find that the largest share of sunflower production has varying between 53.12% and 83.85% in 2010 to 2012, its share in total oil production plants 2014 being 63.26%. The year 2012 is different from other years in the study in that rapeseed production occupied only 9.45% of total oil production plants. Soybean production has consistently held a 5.05% share between 2013 and 6.31% in 2010 (Figure no. 4).

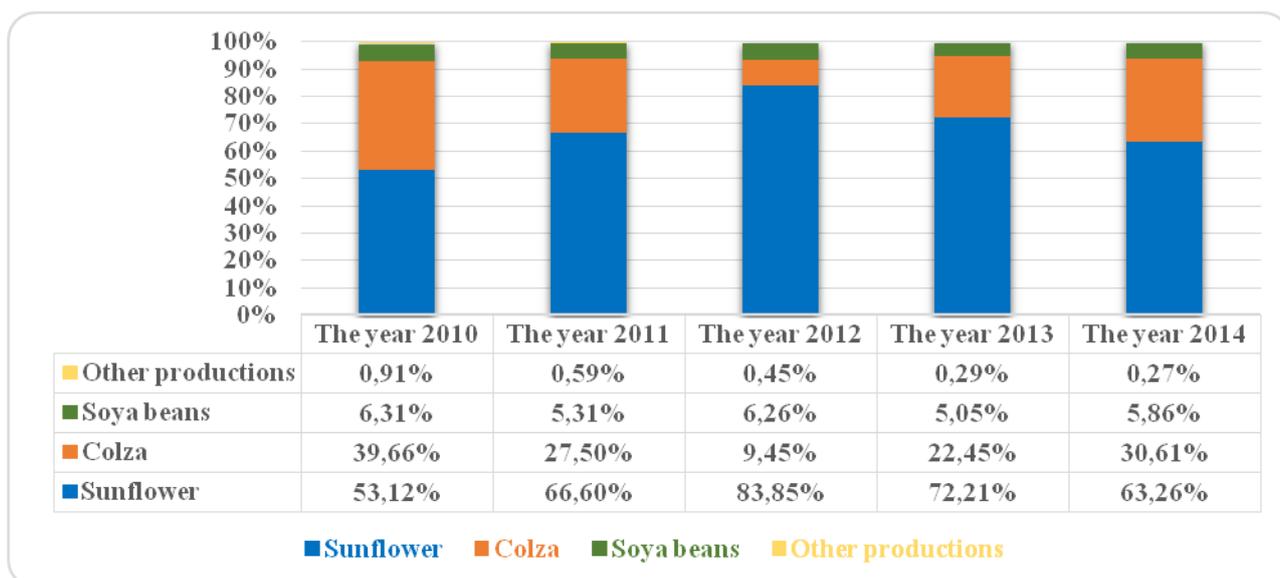


Figure no. 4 - Distribution of crop production for the main oil crops in Romania, in the period 2010 -2014 (%)

Analyzing the licensed premises for the storage of crop production for main crops in Romania, in the year 2014 there were a total of 4288 (silos and warehouses) which had a capacity of 20,817,496 tons of storage (9,749,452 tons in silos and 11,068,044 tons in warehouses). In the developing regions is remarkable existence of a number of 1,169 premises approved for the storage of 5,414,824 tons in South-Muntenia, this mainly due to climatic characteristics of the region, favourable crops. This is followed by South East with a number of storage spaces 875 and 735 West Region authorized storage spaces. Conversely remember the Bucharest Ilfov 50 storage and Centre with 206 storage spaces. It should be considered that the existence of such storage and capacity are closely related to compliance with the agricultural potential of the area (Table no. 2).

Table no. 2

Situation licensed premises for the storage of crop production for main crops in Romania in 2014

Region	Deposits	Storage capacity	From which:	
			Silo	Store House
	Unit size:			
	Number	Tons	Tons	Tone
North-West	347	1201632	440750	760882
Centre	206	1239208	319255	919953
North-East	550	1809100	584122	1224978
South-East	875	5545221	2745594	2799627
South-Muntenia	1169	5414824	3069017	2345807
Bucharest-Ilfov	50	196425	116965	79460
South-West Oltenia	356	1675071	835124	839947
West	735	3736015	1638625	2097390
<b>TOTAL</b>	<b>4288</b>	<b>20817496</b>	<b>9749452</b>	<b>11068044</b>

Analyzing the distribution of storage capacity premises licensed warehouses and silos, we note that in the South-Muntenia and Bucharest-Ilfov most of the production is stored in silos, while in other regions it is stored in warehouses (Fig. 5).

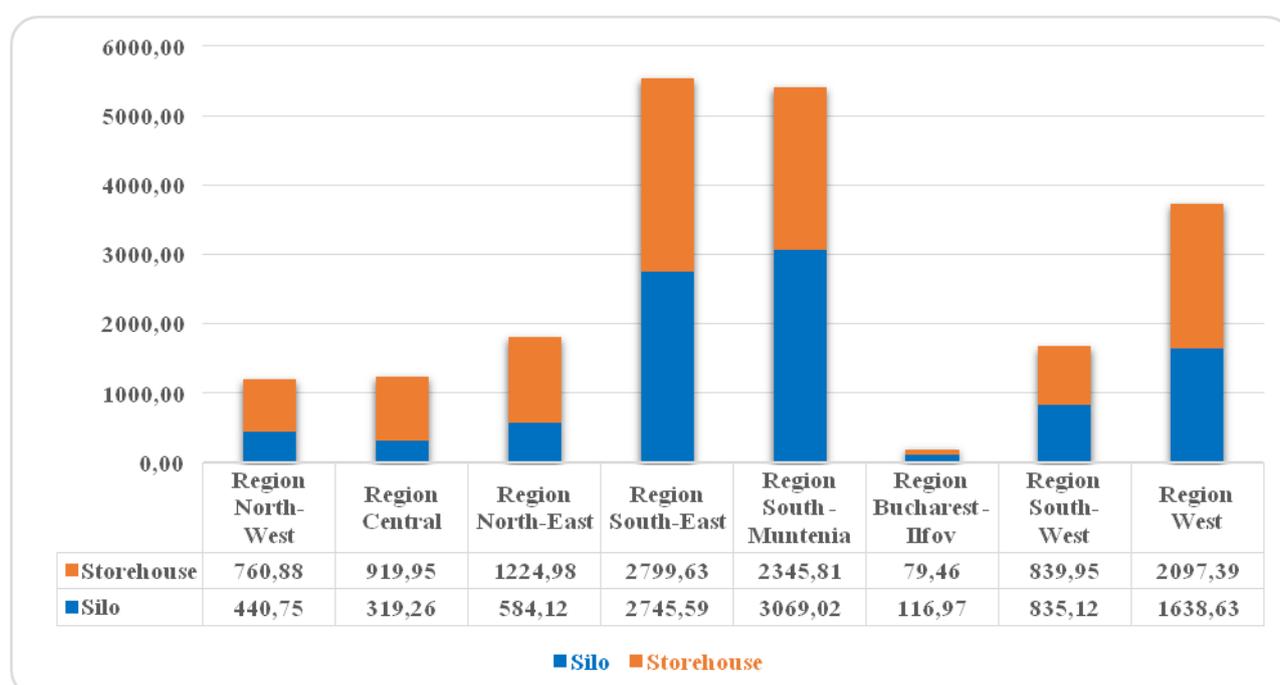


Figure no. 5 - Distribution of storage capacity for crop production for main crops in Romania in 2014 (tons)

Following the above analysis performed, we consider that the storage space of the determination of total production plant to the main categories of crops.

For 2014 it was considered the point 0, and all production harvested whatever crop was stored until the end and was not recovered.

This deficit storage total agricultural output resulted from the difference of total production by category of culture and assessing storage capacity for each category of culture in part.

The storage capacity for each category of crops was performed by extrapolating production share by category of vegetable crops presented in tables / graphs above.

It should also be remembered that not taken into account occupancy deposits, pre-harvest and post-harvest periods or no periods sale.

Thus, a total of 25,602,657 tons total agricultural production of the main crops and a total storage capacity of 20,817,496 tons, according to the aforementioned working hypothesis follows a deficit of 4,785,161 tons of storage (Table no. 3).

Table no. 3

Estimating storage capacity for crop production in the main categories of crops in Romania in 2014

The main categories of crops	Production	Storage capacity	From which:		Deficit space
			Silo	Warehouse	
UM: Tons					
<b>Cereal grains</b>	<b>22070736</b>	17945694	8404502	9541192	<b>4125042</b>
<b>Oil plants</b>	<b>3460558</b>	2813776	1317775	1496001	<b>646782</b>
<b>Grain legumes</b>	<b>71363</b>	58025	27175	30850	<b>13338</b>
<b>TOTAL</b>	<b>25602657</b>	20817496	9749452	11068044	<b>4785161</b>

Looking at total crop production for main crops and existing storage capacity in the year 2014 appears a shortage of storage space grains 4,125,042 tons, 646,782 tons and 13,338 tons oil plants legumes (Figure no. 6).

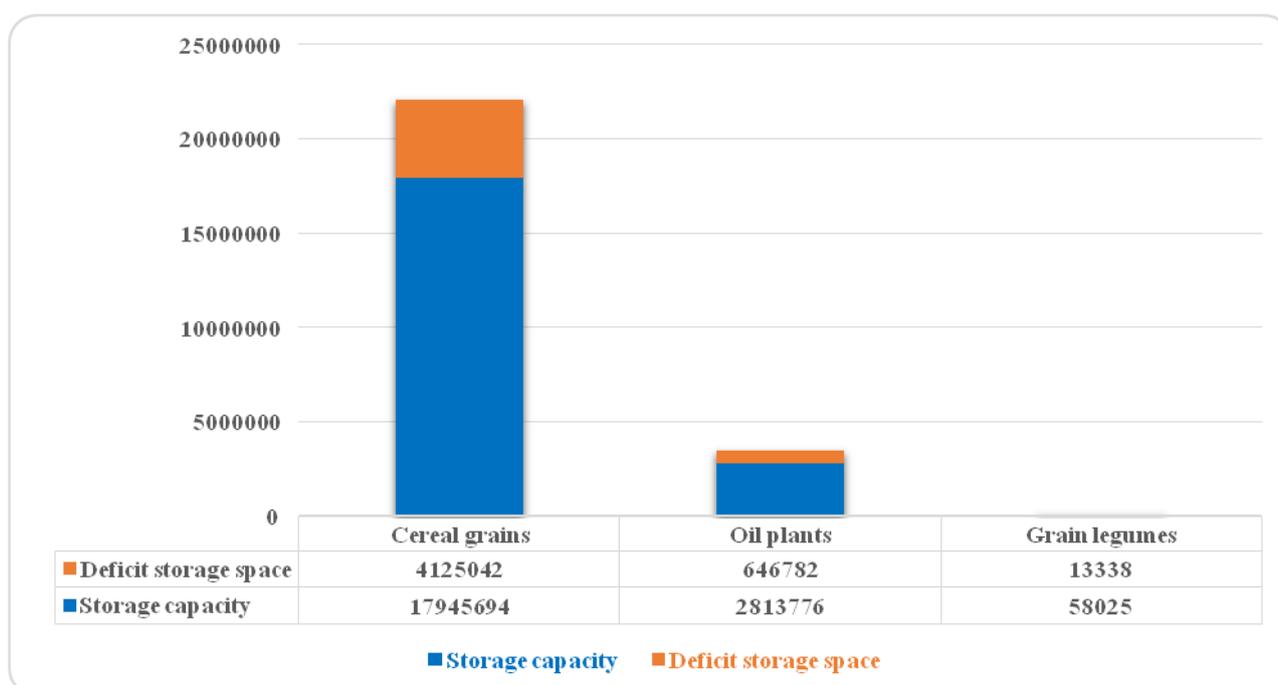


Figure no. 6 Storage capacity estimated deficit of crop production in the main categories of crops in Romania in 2014 (%)

Thus, in terms of crop production in major grain cereals in Romania for 2014 to a deficit estimated storage capacity:

- 2,240,672 tons of maize;
- 1,417,609 tons wheat;
- 202,895 tons of barley;
- 117 175 tons of two-row barley;
- 71.326 tons oats;
- 75.365 tons of other grains.

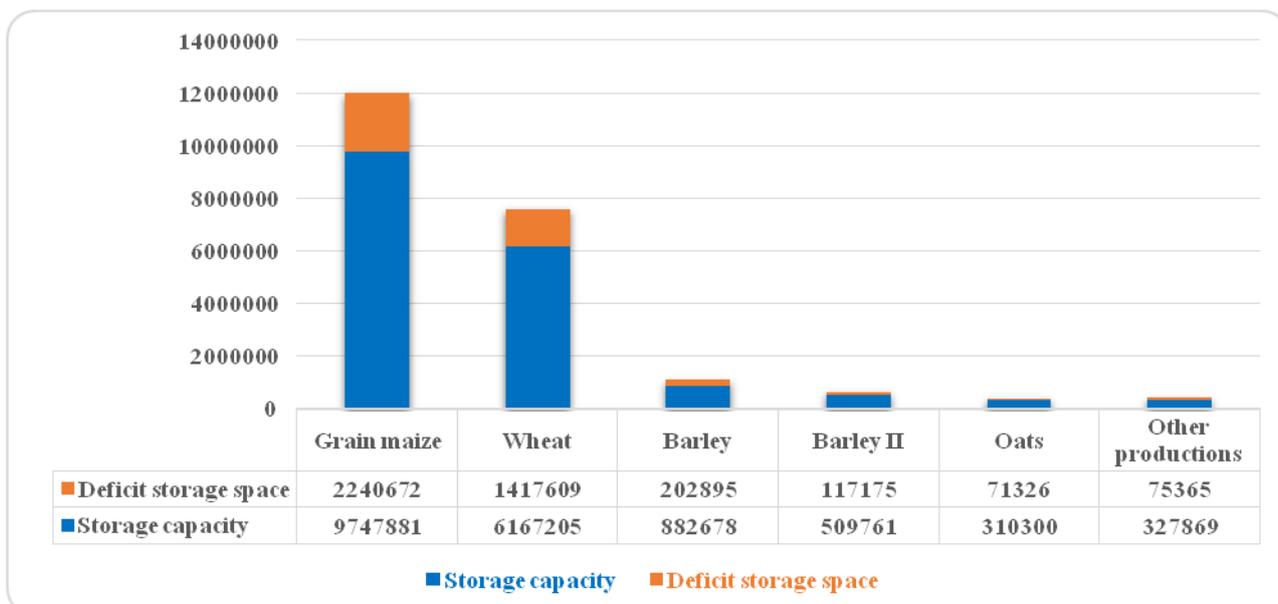


Figure no. 7 - Storage capacity estimated deficit of crop production in major grain cereals in Romania in 2014 (tons)

Vegetal crop production in the main oily plants crops in Romania, for 2014, based on known storage capacities estimated a deficit storage capacity : sunflower at existing capacity of storing 1,780 .125 tons estimated a deficit of 409 184 tons; colza culture at a capacity of 861 170 tons existing storage was estimated a deficit of 197 951 tons; the soybean crop at a capacity of 164 971 tons existing storage was estimated a deficit of 37 921 tons; in other productions, the existing oil plants at a capacity of 7.510 tons of storage was estimated a deficit of 1,726 tons (Figure no. 8).

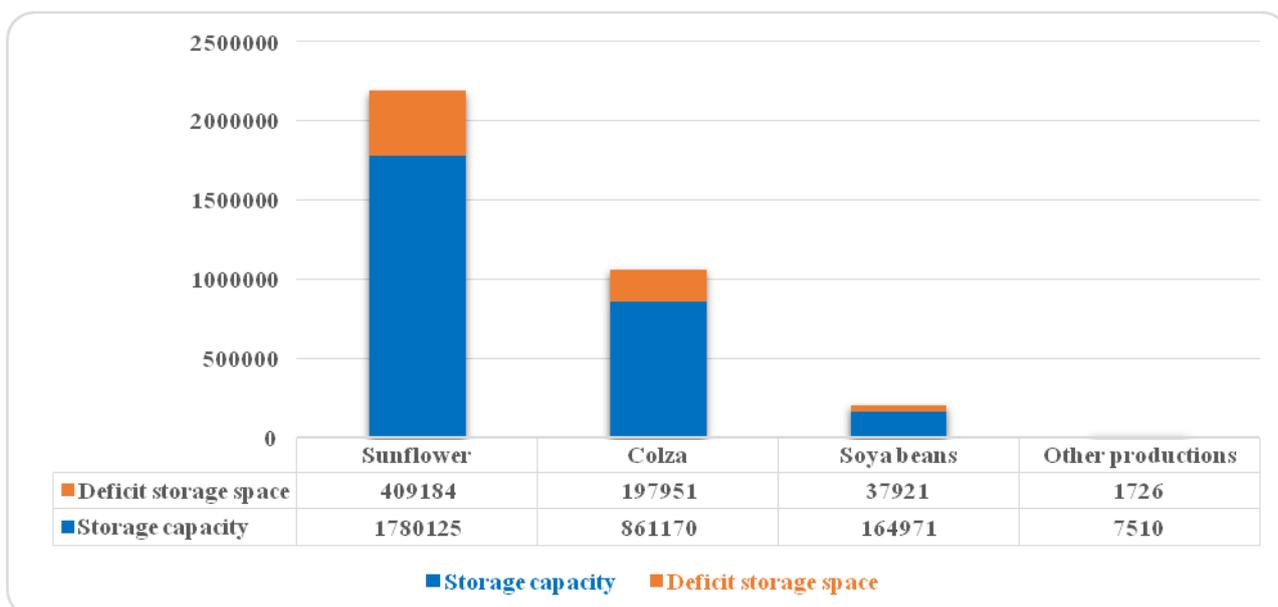


Figure no. 8 - Storage capacity estimated deficit of crop production for the main oil crops in Romania in 2014 (tons)

With regards to vegetal crop production for the main crops of legumes in Romania, for 2014, based on known storage capacities there was estimated a deficit storage capacity: the culture of peas in an existing capacity of storage of 41.482 tons estimated a deficit of 9535 tons for growing beans in a storage capacity of 16 057 tons existing estimated a deficit of 3,691 tons and other grain legumes category was estimated a shortfall of 112 tons (Figure no. 9).

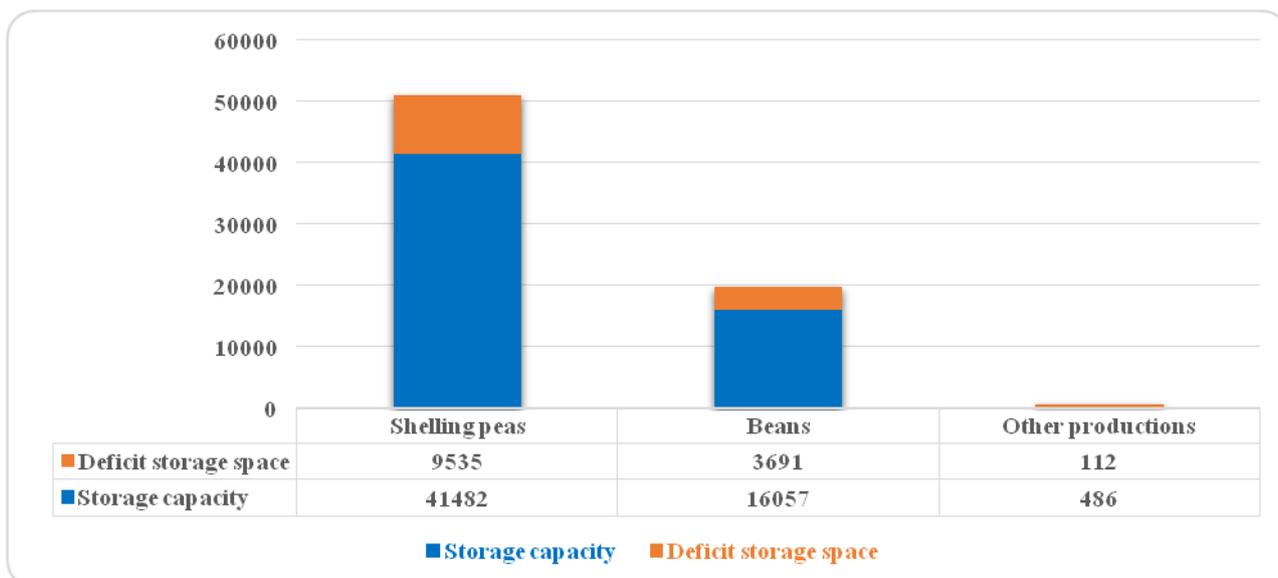


Figure no. 9 - Estimated storage capacity deficit of crop production for the main crops of legumes in Romania in 2014 (tons)

## CONCLUSIONS

In 2014, at a total of 25,602,657 tons of total agricultural production of the main crops and a total storage capacity of 20,817,496 tons, according to the mentioned working hypothesis, follows a deficit of 4,785,161 tons of storage.

Due to the fact that farmers do not have sufficient storage, they are forced to be sold as yields obtained directly from the field when the selling price reaches the lowest point in a crop year.

Storage capacity is essential in order to hold the role of major player in the market. Holders of deposits (silos) command a price they can purchase products from small and medium agricultural producers, and later they transact at higher prices.

Thus, knowing the deficit storage capacity and agricultural production we can develop national strategies to prevent imbalances and distortions which can appear in the correct formation that prices of crop production, representing a real advantage for agricultural producers in Romania.

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