

# Study Regarding the Agricultural Vegetable Production of Constanța County

Ana-Mariana Dincu<sup>1</sup>, Ioan Brad<sup>1</sup>, Remus Gherman<sup>1</sup>, Camelia Mănescu<sup>1</sup>, Ioana Bălan<sup>1</sup>

<sup>1</sup>Banat's University of Agricultural Sciences and Veterinary Medicine "King Michale I of Romania" from Timisoara, Faculty of Management and Rural Tourism, Calea Aradului, 119, Timisoara, Romania

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**Abstract.** There is a lot to say about the agricultural performance of Constanța County, but they are best reflected in this article. Constanta County has 707,129 hectares of land, of which 87% is arable. The natural potential of the region and the climatic conditions are favorable for the development of agricultural activities, therefore the main agricultural crops grown here are wheat, corn, potatoes, oilseeds and vegetables. Regarding the area of vineyards by fruit, the South-East region ranks first in the country, being known both domestically and internationally. Also, the industrialization and processing of agricultural products is provided by 136 companies specialized in the food industry.

**Keywords:** agricultural potential, agriculture, vegetable production, agricultural production, Constanta

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## 1. Introduction

Agriculture represents a sector with a considerable potential, occupying, by tradition, an important place in the structure of the Romanian economy. This is an important factor in social stability and maintaining ecological balance; it is the branch that provides food for the population and important quantities of raw materials for the food and other non-food industries [1, 2].

Romania has the 6th largest agricultural area used among EU countries and is among the top 10 exporters of wheat and corn worldwide, but agriculture is insufficiently mechanized, being affected by the fragmentation of agricultural property, lack of capital and irrigation systems, as well as lack of professional education of agricultural workers.

Another problem characteristic of the Romanian agricultural sector from the perspective of human resources is the fact that there is no clearly defined professional status of the farmer. This has strong

implications for tax and social security and health care [3].

For the farmer, agriculture must be, not only the workplace with material subsistence earnings, but the place where the farmer can find peace of mind, financial fulfillment and the pride of an agricultural producer.

## 2. Materials and methods

The methods we use to elaborate this article are research, analysis and comparison. With the help of these methods we carried out a study on the evolution of vegetable agricultural production in Constanța County for a longer period of time.

## 3. Results and discussion

Constanta county is the most urbanized county in Romania, being on the 5th place between counties in terms of contribution to Romania's GDP, respectively 21.73 billion lei. [4]

Constanța County is located in the southeastern part of Romania and has an area of 7071 km<sup>2</sup> (ie 3% of the total area of the country), being the eighth largest of the country's counties. It borders

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\* Corresponding author: Ioana Bălan, 0730002929, [ioanabalan@yahoo.com](mailto:ioanabalan@yahoo.com)

Tulcea County to the north, the Black Sea to the east, Bulgaria to the south, and the Danube to the west, which form natural borders with Călărași and Lalomița counties. [5]

Having an agricultural area of 558,153 hectares, Constanța County ranks third after Timiș County

and Dolj County. In the table below we will present the evolution of the land fund by the way of use, in the period 2000-2017.

**Table 1.** The structure of the land fund of Constanța county, according to the way of use

-hectares-

Specification	Years					
	2000	2005	2010	2012	2014	2017
<b>Total</b>	<b>707 129</b>	<b>707 129</b>	<b>707 129</b>	<b>707 129</b>	<b>707 129</b>	<b>707 129</b>
agricultural	568 358	563 944	558 204	558 204	558 153	558.204
arable	487 294	486 245	484 154	484 154	484 103	484.103
pastures	61 816	61 255	58 693	58 693	58 693	58.693
Vineyards and vineyards	15212	12415	11563	11563	11563	11.007
Orchards and fruit nurseries	4036	4029	3794	3794	3794	3096
Total non-agricultural land	-	-	148 925	148 925	148 976	148 925

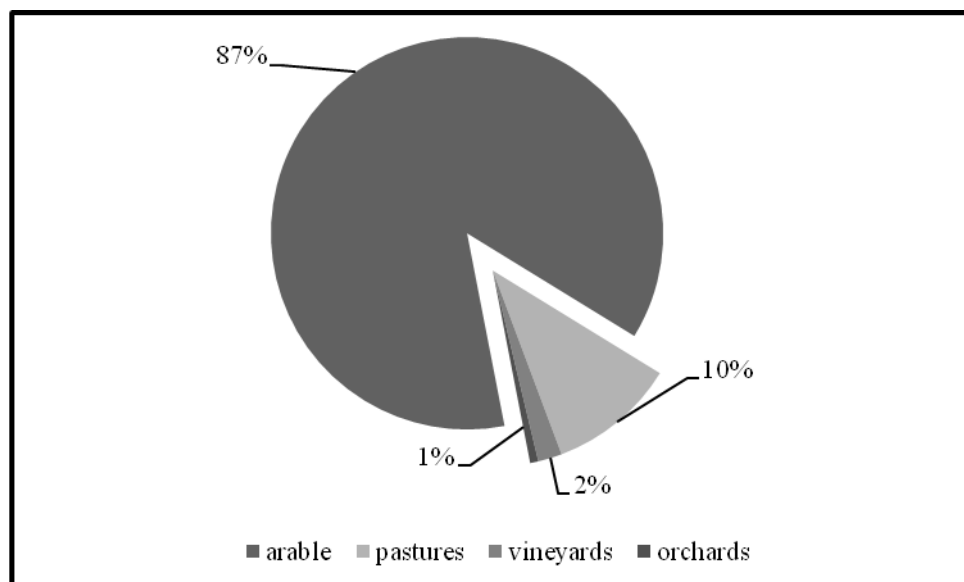
Source: Processing after Tempo online, 2020 [6,7]

At county level, as can be seen in the table above, the structure of the land fund is very diverse. We have a total agricultural area of 558,153 ha of which:

- arable 484,103 ha,
- pastures 58,693 ha,

- vineyards and viticultural nurseries 11,007 ha
- 3,096 ha orchards.

It can also be seen that the structure of the hayfields is missing from the structure of the land fund.



**Figure 1.** The structure of the land fund by categories of use at the end of 2017

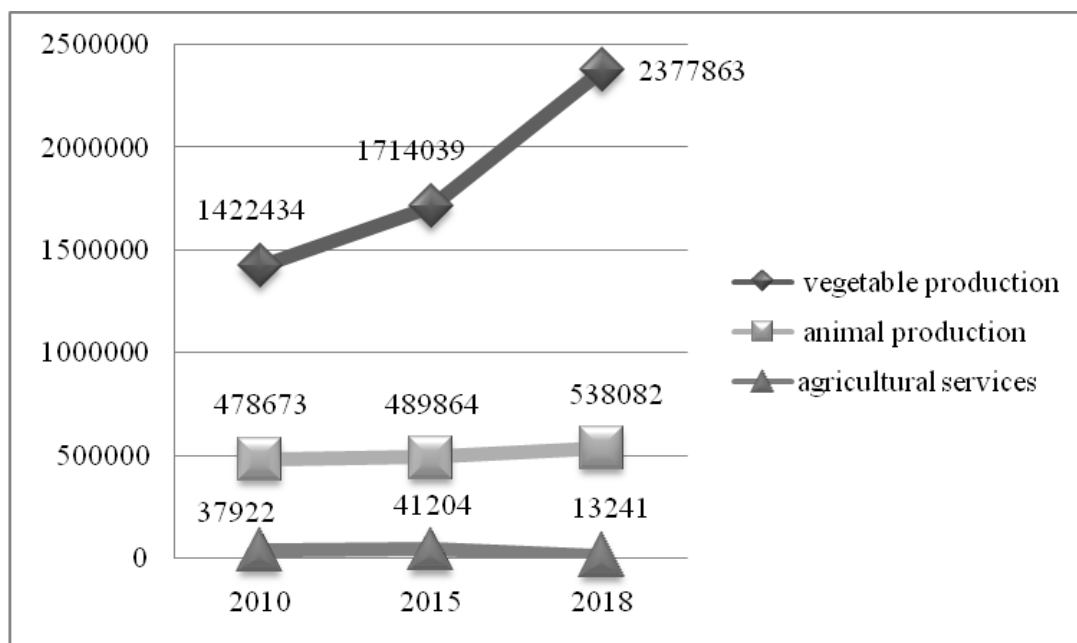
From the figure above we can see that the arable land has the largest share, namely 87%, and a very small share of 1% is owned by orchards, followed by vineyards with a share of 2%.

Next we will present the evolution of agricultural production, in the period 2010-2018, which is shown in the table below.

**Table 2.** Agricultural production of Constanța county, in the period 2010-2018

Constanța county	2010		2015		2016		2017		2018	
	thousands RON	%	thousands RON	%	thousands RON	%	thousands RON	%	thousands RON	%
<b>Prod. Total agricultural, dc:</b>	1939029	100	2245107	100	2050416	100	2781574	100	2929186	100
- vegetable	1422434	73.3	1714039	76.3	1529311	74.6	2241730	80.6	2377863	81.2
- animal	478 673	24.7	489 864	21.8	505 174	24.6	527 888	19.0	538 082	18.4
- agricultural services	37922	2.0	41 204	1.9	15931	0.8	11956	0.4	13241	0.4

Source: National Institute of Statistics [6,7]



**Figure 2.** Agricultural production in Constanța county in the period 2010-2018

As can be seen, the vegetable production sector predominates in Constanța County with a percentage of 81.2%, and at the opposite pole are agricultural services, which have an insignificant value compared to other sectors.

During the analyzed period we can observe that the evolution of agricultural production is on an upward trend, the same happens in the case of plant and animal production, while the share of agricultural services is decreasing, from 2% in 2010 to 0.4% in year 2018.

The riches of the soil are represented by the large areas of agricultural land, land that represents over 80% of the total area, of which, as we saw above, the arable area is 87%, therefore the main agricultural crops cultivated in Constanța County are those of: [9-15]

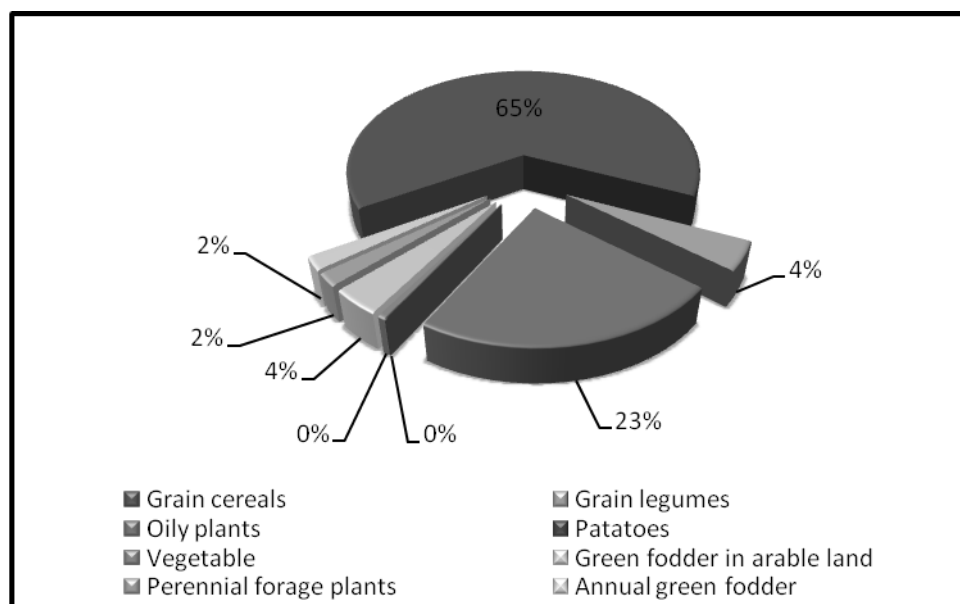
- ✚ wheat,
- ✚ maize,
- ✚ potatoes,
- ✚ oil plants
- ✚ vegetables.

In table 3. we will present the evolution of the cultivated areas with the main crops, in Constanța county, in the period 2010-2019 [6].

**Table 3.** The structure of cultivated areas in Constanța County, 2010-2019

No. crt.	The main cultures	2010	2015	2016	2017	2018	2019
1	<b>TOTAL AREA</b>	<b>499 480</b>	<b>484 007</b>	<b>483 980</b>	<b>474 324</b>	<b>474 344</b>	<b>47 668</b>
2	Grain cereals	306 689	307 450	322 331	306 608	307 378	321 547
3	Wheat and rye	180 704	177 077	185 608	175 998	179 336	181 664
4	Barley and barley	90 084	60048	63 921	65 088	64114	68 823
5	Oat	6904	8868	9634	6562	6704	6625
6	Corn grain	28 889	59 839	61 521	58045	56 269	63 499
7	Grain legumes	4877	7757	6009	19034	20426	20923
8	Peas berries	3532	7336	5591	18689	20059	20533
9	Beans	1340	421	418	345	352	362
10	Oily plants	159 184	134 706	122 258	127 577	126 174	113 647
11	Sunflower	78 014	95124	76 854	81 318	79822	86 828
12	Soy beans	-	385	180	1259	594	925
13	Potatoes	1850	1398	397	364	350	358
15	vegetables	4117	4040	3700	2957	2836	2652
16	tomatoes	920	870	971	788	788	672
17	White cabbage	561	557	581	389	389	414
18	Green fodder in arable land	21 957	28 784	29 238	18 898	18525	18 790
20	Perennial forage plants	7689	9881	10003	8910	9003	9156
21	Annual green fodder	14268	18 903	19235	9988	9521	9633

Source: National Institute of Statistics [7, 8]



**Figure 3.** The share of cultivated areas in Constanța County, in 2019

Regarding the evolution of cultivated areas, an ascending evolution can be observed for wheat and rye, for maize for grains, for legumes for grains, for peas for grains and for perennial fodder plants. The other categories have a downward trend in the period analyzed by us.

Agricultural crops are a main feature of the region, but also in the area studied by us, the area

cultivated with corn has tripled during this period, reaching in 2019 to 63,499 hectares, the area cultivated with peas for grains increased greatly, from 3532 hectares in 2010 to 20,533 hectares in 2019.

In table 4. we will analyze the dynamics of average yields per hectare, in the period 2005-2019, for the main crops.

**Table 4.** Average productions per hectare, in Constanța county, 2005-2019

No. crt.	Culture name	2005	2010	2015	2016	2017	2018	2019
1.	Wheat and rye	3393	2626	3785	4008	5412	5677	4748
2.	Barley and barley	1923	2604	3626	4003	4182	4757	4399
3.	Oat	1671	1585	2131	2288	2659	2713	2658
4.	Corn grain	3910	4925	2894	3191	5786	8124	5628
5.	Peas berries	1929	1744	1500	1688	2792	1709	1888
6.	Beans	1754	1163	957	675	1229	2202	1708
7.	Sunflower	1661	1538	1597	1502	3180	3715	2660
8.	Rape	1507	1875	2301	2293	2211	2288	2126
9.	Soy beans	2148	:	1291	1272	2254	2278	1774
10.	Potatoes	17654	10688	12657	8829	21041	20 373	17551
11.	Tomatoes	12988	17 842	15871	15474	15687	19444	18982
12.	White cabbage	18438	21631	17 831	11 948	14900	14861	13664

Source: National Institute of Statistics [7,8]

If we analyze carefully the table above, we can see that the average production of wheat and rye is decreasing compared to 2017 and 2018 but increasing compared to 2005-2016. The same happens in the case of average production for corn and oats.

For tomatoes, the average production increased significantly in 2019, compared to 2005, from 12,988 kg / ha to 18,982 kg / ha, but decreasing compared to 2018.

In the other crops, the average production oscillates from one year to another, either increases or decreases, depending on the climatic conditions of that period.

So far we have analyzed the average production per hectare, and in the following we will analyze the vegetal agricultural production, in the period 2010-2019.

**Table 5.** Vegetable agricultural production, in Constanța county

No. crt.	Culture	2010	2015	2016	2017	2018	2019
1.	Cereal grains	862 551	1084239	1222293	1581239	1801684	1543474
2.	Wheat and rye	474 548	670 293	743 881	952 578	1018032	862 552
3.	Barley and barley	234 605	217 714	255 871	272 190	305 018	302 735
4.	Oat	10940	18897	22046	17449	18184	17611
5.	Maize	142 288	173 192	196 321	335 854	457 152	357 400
6.	Leguminous grains	7719	11409	9718	52 607	35 078	39 445
7.	Green peas	6160	11006	9436	52 183	34280	38 762
8.	Beans	1559	403	282	424	775	619
9.	Oily plants	271 367	241 434	218 565	360 319	401 763	287 014
10.	Sunflower	119 958	151 939	115 414	258 610	296 518	230 976
11.	Rape	150 318	87 667	102 058	97 882	102 463	53577
12.	Soy	:	497	229	2838	1353	1641
13.	Potatoes	20487	17938	3746	7906	7372	6529
14.	vegetables	61 170	61 535	52 833	43 241	45 775	41 399
15.	Tomatoes	16415	13808	15025	12361	15326	12756
16.	Cabbage	12 135	9932	6942	5796	5784	5657
17.	Pepper	4265	1777	867	1012	1038	991

Source: National Institute of Statistics [7,8]

Regarding the vegetable production in Constanța County, as can be seen from the table above, in most crops it is declining in 2019 compared to 2018, and in the crops of legumes for grains and peas, it recorded a upward growth in 2019

compared to 2018 and downward growth compared to 2017. There is also a slight increase in soybean production in 2019, although in 2010 it did not even exist.

#### 4. Conclusions

Agriculture, this primary sector of human activity, provides man, society in general with food, resources for the processing industries that complete the very wide range of human needs, jobs, the market for related industries, food independence, economic and even political, in an expression covering the needs of human society, which gives it the status of a priority branch of the national economy;

In terms of technology, the lack or insufficiency of the mechanization of agricultural works, is a reason why they can not be performed in optimal times, the consequences being the corresponding reductions in production;

Stimulating the lease of land by young farmers and the retirement of elderly farmers;

Crops are a main feature of the region, and the area cultivated with corn has tripled in the period analyzed by us in this article.

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