

## COMPARATIVE PRICE SITUATION THE TWO TYPES OF POTATOES OBTAINED IN ROMANIA (2018-2022)

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### ABSTRACT

The potato culture has a pronounced elasticity, being practiced on numerous meridians and parallels of the globe, the product supplied representing a basic food in the human diet. The potato is also distinguished by its multiple possibilities of use (animal feed, industrial raw material, technological aspects, etc.) and by its high productive potential. Romania is a significant producer of potatoes in the European Union, but we suffer in terms of performances recorded on the productive unit.

At national level, the potato price was 1.16 lei/kg for early, semi-early and summer potato, respectively 1.14 lei/kg for autumn potato. Differences are observed between development regions, with limits of 0.88 and 1.71 lei/kg for early production (Bucharest-Ilfov and West regions, respectively) and 0.80 and 1.67 lei/kg for autumn potatoes (Bucharest-Ilfov and South-West Oltenia regions). We can say that at regional level, prices are correlated to some extent, by their productive potential, as well as by the respective mode of intensity of supply and demand.

**Key words:** potato, price, semi-early, early, autumn, summer

### INTRODUCTION

The potato, is a species with a very high ecological elasticity, is a food product of prime importance, having also a wide industrial use (starch, dextrin, alcohol) and fodder. From 10 t potatoes can be obtained 1 t meat. In northwestern Europe, almost 50% of the potato crop is used as animal feed, and in Poland up to 65%. Potato production is of food, industrial, agrotechnical-technological, fodder importance, export item and source of profit.

These characteristics, plus the high production potential (60-80 t / ha), did not encourage producers after 1990, especially due to the huge expenses with the establishment of the crop (accentuated by the inflation existing during this period) and the lack of a firm policy to support the product. This decrease is due to a 37% reduction in areas and 63% to a deterioration in yields.

The trend of continuous decline in total production must not be corrected by increasing acreage, but by intensifying cultivation technologies and concentrating this crop in the most favorable areas.

Currently, Brasov, Covasna, Harghita, Suceava and Neamt counties concentrate over 40% of the potato area in the country, an action that has had the effect of increasing average production.

Potato production is ranked as the third crop after wheat and maize. The area cultivated with potatoes in Romania is comparable to that in Germany, which represents about 20% of the total area cultivated with potatoes in the EU. At the same time, yields per hectare for this crop are less than 40% of EU levels. The level of consumption per capita of potato product is similar to that of Germany and France.

Price is the defining aspect of a consumer good, representing a significant appreciation of the cost and value of the

product. Under certain conditions, the various assessments coincide with the value of agri-food products.

At the level of the market economy, the price of agricultural products is adjusted based on the manifestation of its laws, especially through the law of supply and demand.

## METHOD AND MATERIAL

The preparation of the paper resorted to the method of comparison. In addition to the time sequences included in the analysis, their average was also operated. It was considered necessary to position the development regions in relation to the national level and to compare the two major production directions specific to potato cultivation: early, semi-early and summer potatoes versus autumn potatoes.

The paper presents the price level for early, semi-early, summer and autumn potatoes (lei/kg), existing on the website of the National Institute of Statistics, for the period 2015 – 2019. The indicator is specified at national level and for the 8 development regions of Romania: North-East, South-East, South Muntenia, South-West Oltenia, West, North-West, Center and Bucharest-Ilfov.

According to the methodology of the National Institute of Statistics, the average prices of products purchased by processors, traders, etc. are presented.

The average purchase price is determined as the weighted arithmetic average of the prices recorded at channel level – chain. The weights are calculated at county level based on production data.

The price level reflects the first stage of marketing, i.e. direct purchases from agricultural producers, which does not include transport, storage, subsidies, VAT, etc.

## RESULTS AND DISCUSSIONS

Table 1 shows the price level and evolution of early, semi-early and summer potatoes at national and regional level.

In 2018, the average price at national level was 1.0 lei / kg, compared to which there were, at regional level, both supra-unitary values and sub-unit levels. Thus, the North-East, South-East, South-West Oltenia, West and Bucharest-Ilfov regions are characterized by subunit levels: 0.83, 0.90, 0.86, 0.95 and 0.86 lei/kg. Consequently, we are talking about absolute decreases of 0.17, 0.10, 0.14, 0.05 and 0.14 lei/kg, decreases that in relative sizes were identical. The higher levels reached: 1.20 lei/kg for the South Muntenia Region (+0.20 lei/kg), 1.85 lei/kg for the North-West Region (+0.85 lei/kg), 1.42 lei/kg for the Central Region (+0.42 lei/kg).

The year 2019 is characterized by price variation limits of 0.73 lei/kg for the Bucharest-Ilfov Region (-0.72 lei/kg and -49.64% compared to the national situation) and 2.34 lei/kg respectively in the case of the South-West Oltenia Region (+0.89 lei/kg and +61.38% compared to the national situation), while at national level the indicator reached 1.45 lei/kg. As in the case of the previous year, we are talking about regions that recorded higher levels, compared to the reporting base (national level of the indicator) - 1.91 lei/kg North-East Region (+0.46 lei/kg and +31.72%), 1.77 lei/kg in the Central Region (+0.32 lei/kg and +22.07%), 1.75 lei/kg North-West Region (+0.30 lei/kg and +20.69%), 1.61 lei/kg in South Muntenia Region (+0.15 lei/kg and +11.03%), 1.48 lei/kg at West Region level (+0.03 lei/kg and +2.07%). At the same time, we are also discussing lower values: 0.99 lei/kg at the level of the South-East Region (-0.46 lei/kg and -31.72%).

**Table 1. Early, semi-early and summer potatoes.  
Situation of sales prices (lei/kg) in Romania,  
at national and regional level (2018 – 2022)**

Specification	Year									
	2018		2019		2020		2021		2022	
	Eff. *	% compared to the national level **	Eff. *	% compared to the national level **	Eff. *	% compared to the national level **	Eff. *	% compared to the national level **	Eff. *	% compared to the national level **
National level	1.00	100	1.45	100	1.03	100	0.95	100	1.38	100
Northeast region	0.83	83.0	1.91	131.72	1.06	102.91	1.22	128.42	1.52	110.14
Southeast region	0.90	90.0	0.99	68.28	1.16	112.62	0.73	76.84	1.90	137.68
The region South Muntenia	1.20	120.0	1.61	111.03	1.07	103.88	0.81	85.26	1.55	112.32
The region South-West Oltenia	0.86	86.0	2.34	161.38	2.05	199.03	1.10	115.79	2.15	155.80
West Region	0.95	95.0	1.48	102.07	1.43	138.83	2.25	236.84	2.44	176.81
The region Northwest	1.85	185.0	1.75	120.69	0.52	50.49	1.02	107.37	1.52	110.14
Center Region	1.42	142.0	1.77	122.07	1.73	167.96	1.54	162.11	1.98	143.48
Bucharest-Ilfov region	0.86	86.0	0.73	50.34	0.83	80.58	0.88	92.63	1.08	78.26

<http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> (29.09.2023) – PPA102C – Average purchase prices of main agricultural products, by total country and by development regions, by years, months and quarters;

\*\*own calculation;

If we refer to the specific situation of 2020, there is a national price of 1.03 lei / kg, compared to which the development regions were positioned as follows: -49.51% North-West Region (effective level of 0.52 lei/kg, real decrease of 0.51 lei/kg), -19.42% Bucharest-Ilfov Region (0.83 lei/kg effective level, absolute decrease of 0.20 lei/kg), +2.91% North-East Region (1.06 lei/kg effective level, absolute exceeding of 0.03 lei/kg), +3.88% South Muntenia Region (effective level of 1.07 lei/kg, 0.04 lei/kg absolute exceedance), +12.62% South-East Region (1.16 lei/kg effective level, absolute exceeding of 0.13 lei/kg), +38.83% West Region (1.43 lei/kg effective level, absolute exceeding of 0.40 lei/kg), +67.96% Center Region (1.73 lei/kg effective level, absolute exceeding of 0.70 lei/kg), +99.03% South-West Oltenia Region (2.05 lei/kg effective level, absolute exceeding of 1.02 lei/kg).

In the case of 2021, it is noted that the price varied from 0.73 lei/kg in the South-East Region (-23.16% respectively -0.22 lei/kg compared to the comparison term) to 2.25 lei/kg in the case of West Region (+136.84% respectively +1.30 lei/kg), and the national level of the indicator was 0.95 lei/kg. Exceedances of the national level are found as follows: +0.07 lei/kg North-West Region (1.02 lei/kg, +7.37% in relative values), +0.15 lei/kg for South-West Oltenia Region (effective level of 1.10 lei/kg, 15.79% more than the reporting base), +0.27 lei/kg in the North-East Region (effective level of 1.22 lei/kg, 28.42% more than the comparison base) and +0.59 lei/kg for the Center Region (effective level of 1.54 lei/kg, exceeding the reference deadline by 62.11%). There are also decreases compared to the national level: -0.07 lei/kg for Bucharest-Ilfov Region (0.88 lei/kg respectively

-7.37%), -0.14 lei/kg South Muntenia Region (0.81 lei/kg respectively -14.74%). For 2022, there was a national level of 1.38 lei/kg of the selling price, with limits of 1.08 lei/kg in the Bucharest-Ilfov Region (-21.74% and -0.30 lei/kg compared to the national situation) and 2.44 lei/kg in the West Region (+76.81% and +1.06 lei/kg). Below the reference level is only Bucharest-Ilfov Region, the rest of the regions exceeding the national situation as follows: +10.14% North-East and North-West (effective levels of 1.52 lei/kg,

absolute exceeding of 0.14 lei/kg), +12.32% South Muntenia (1.55 lei/kg effective level, absolute increase of 0.17 lei/kg), +37.68% South-East (1.90 lei/kg effective level, absolute increase of 0.52 lei/kg), +43.48% Center (1.98 lei/kg effective level, absolute increase of 0.60 lei/kg), +55.80% South-West Oltenia (2.15 lei/kg effective level, absolute increase of 0.77 lei/kg).

Table 2 shows the national and regional price data for autumn potatoes.

**Table 2. Autumn potatoes.  
Situation of sales prices (lei/kg) in Romania,  
at national and regional level (2018 – 2022)**

Specifi.	Year									
	2018		2019		2020		2021		2022	
	Eff.*	% comp. to the national level **	Eff.*	% comp. to the national level **	Eff.*	% comp. to the national level **	Eff.*	% comp. to the national level **	Eff.*	% comp. to the national level **
National level	0.82	100	1.38	100	1.10	100	0.89	100	1.55	100
Northeast region	0.90	109.76	1.44	104.35	1.24	112.73	0.89	100.0	1.53	98.71
Southeast region	0.61	74.39	1.47	106.52	1.00	90.91	0.96	107.87	1.52	98.06
The region South Muntenia	0.75	91.46	1.58	114.49	1.13	102.73	0.85	95.51	1.33	85.81
The region South-West Oltenia	1.21	147.56	2.11	152.90	1.73	157.27	1.19	133.71	2.09	134.84
West Region	1.29	157.32	1.54	111.59	1.31	119.09	1.13	126.97	1.77	114.19
The region Northwest	1.00	121.95	1.03	74.64	1.02	92.73	0.98	110.11	1.78	114.84
Center Region	0.61	74.39	1.23	89.13	1.06	96.36	0.76	85.39	1.42	91.61
Bucharest-Ilfov region	0.66	80.49	0.70	50.72	0.80	72.73	0.82	92.13	1.01	65.16

<http://statistici.insse.ro:8077/tempo-online/#/pages/tables/insse-table> (29.09.2023) – PPA102C – Average purchase prices of main agricultural products, by total country and by development regions, by years, months and quarters;

\*\*own calculation;

In 2018, the national average price was 0.82 lei/kg, compared to which there were, at regional level, both supra-unit values and sub-unit levels. Thus, the regions South-East, South Muntenia, Center and Bucharest-Ilfov are characterized by subunit levels: 0.61, 0.75, 0.61 and 0.66 lei/kg. Consequently, we are talking about

absolute decreases of 0.21, 0.07, 0.21 and 0.16 lei/kg, decreases that in relative sizes were: 25.61, 8.54, 25.61 and 19.51%. The higher unit levels reached: 0.90 lei/kg for the North-East Region (+0.08 lei/kg), 1.00 lei/kg in the North-West Region (+0.19 lei/kg), 1.21 lei/kg in the South-West Oltenia Region (+0.39 lei/kg) and 1.29

lei/kg in the case of the West Region (+0.47 lei/kg).

The year 2019 is characterized by price variation limits of 0.70 lei/kg for the Bucharest-Ilfov Region (-0.68 lei/kg and -49.28% compared to the national situation) and 2.11 lei/kg respectively in the case of the South-West Oltenia Region (+0.73 lei/kg and +52.90% compared to the national situation), while at national level the indicator reached 1.38 lei/kg. As in the case of the previous year, we are talking about regions that recorded higher levels, compared to the reporting base (national level of the indicator) - 1.58 lei/kg South Muntenia Region (+0.20 lei/kg and +14.49%), 1.54 lei/kg in West Region (+0.16 lei/kg and +11.59%), 1.47 lei/kg South-East Region (+0.09 lei/kg and +6.52%), 1.44 lei/kg in the North-East Region (+0.06 lei/kg and +4.35%). At the same time, we are talking about lower values: 1.23 lei/kg in the Central Region (-0.15 lei/kg and -10.87%), 1.03 lei/kg in the North-West Region (-0.35 lei/kg and -25.36%).

If we refer to the specific situation of 2020, there is a national price of 1.10 lei / kg, compared to which the development regions were positioned as follows: -27.27% Bucharest-Ilfov Region (effective level of 0.80 lei/kg, real decrease of 0.30 lei/kg), -9.09% South-East Region (1.0 lei/kg effective level, absolute decrease of 0.10 lei/kg), -7.27% North-West Region (1.02 lei/kg effective level, absolute decrease of 0.08 lei/kg), -3.64% Center Region (1.06 lei/kg effective level, absolute decrease of 0.04 lei/kg), +2.73% South Muntenia Region (1.13 lei/kg effective level, absolute exceeding of 0.03 lei/kg), +12.73% North-East Region (effective level of 1.24 lei/kg, 0.14 lei/kg absolute exceedance), +19.09% West Region (1.31 lei/kg effective level, absolute exceeding of 0.21 lei/kg), +57.27% South-West Oltenia Region (1.73 lei/kg effective level, absolute exceeding of 0.63 lei/kg).

In the case of 2021, it is noted that the price varied from 0.76 lei/kg in the Central Region (-14.61%, respectively -0.13 lei/kg

compared to the comparison term) to 1.19 lei/kg in the case of the South-West Oltenia Region (+33.71%, respectively +0.30 lei/kg), and the national level of the indicator was 0.89 lei/kg. Exceedances of the national level are found as follows: +0.24 lei/kg in West Region (effective level of 1.13 lei/kg, 26.97% more than the comparison base), +0.09 lei/kg for the North-West Region (effective level of 0.98 lei/kg, 10.11% more than the reporting base) and +0.07 lei/kg South-East Region (0.96 lei/kg, +7.87% in relative values). We are talking about the existence of an equi-unitary level of the indicator compared to the national situation, in the case of the North-East region. There are also decreases compared to the national level: -0.04 lei/kg for the South Muntenia Region (0.85 lei/kg respectively -4.49%) and -0.07 lei/kg Bucharest-Ilfov Region (0.82 lei/kg respectively -7.87%).

For 2022, there was a national level of 1.55 lei/kg of the selling price, with limits of 1.01 lei/kg in the Bucharest-Ilfov Region (-34.84% and -0.54 lei/kg compared to the national situation) and 2.09 lei/kg in the South-West Oltenia Region (+34.84% and +0.54 lei/kg). Below the reference level are most regions, as follows: -1.29% North-East Region (effective level of 1.53 lei/kg, absolute decrease of 0.02 lei/kg), -1.94% South-East Region (effective level of 1.52 lei/kg, absolute decrease of 0.03 lei/kg), -8.39% Center Region (effective level of 1.42 lei/kg, absolute decrease of 0.13 lei/kg) and -14.19% South Muntenia Region (effective level of 1.33 lei/kg, absolute decrease of 0.22 lei/kg). The rest of the regions exceed the national situation as follows: +14.19% West Region (effective level of 1.77 lei/kg, absolute exceeding of 0.22 lei/kg) and +14.84% North-West Region (1.78 lei/kg effective level, absolute increase of 0.23 lei/kg).

The comparative situation of prices of early, semi-early and summer potatoes versus autumn potatoes (as an average of the period), at national and regional level, is presented in Table 3.

**Table 3. Early, semi-early and summer potatoes - Autumn potatoes.  
Comparative situation of sales prices (lei/kg) in Romania, at national and regional level.  
Average period 2018 – 2022**

Specification	Early, semi-early and summer potatoes		Autumn potatoes		±% Early potatoes versus autumn potatoes
	Eff.*	% comp. to the national level **	Eff.*	% comp. to the national level **	
National level	1.16	100	1.14	100	+1.75
Northeast region	1.31	112.93	1.20	105.26	+9.17
Southeast region	1.14	98.28	1.11	97.37	+2.70
Region South Muntenia	1.25	107.59	1.13	99.12	+10.62
Region South-West Oltenia	1.70	146.55	1.67	146.49	+1.80
West Region	1.71	147.41	1.41	123.68	+21.28
Region Northwest	1.33	114.66	1.16	101.75	+14.66
Center Region	1.69	145.69	1.02	89.47	+65.68
Bucharest-Ilfov Region	0.88	75.86	0.80	70.18	+10.0

own calculation

In the case of early production, a national average price of 1.16 lei/kg was obtained, against which the development regions were positioned as follows: -24.14% Bucharest-Ilfov Region (absolute decrease of 0.28 lei/kg, respectively an effective indicator level of 0.88 lei/kg), -1.72% South-East Region (absolute decrease of 0.02 lei/kg, respectively an effective indicator level of 1.14 lei/kg), +7.59% South Muntenia Region (absolute increase of 0.09 lei/kg, respectively an effective indicator level of 1.25 lei/kg), +12.93% North-East Region (absolute increase of 0.15 lei/kg, respectively an effective indicator level of 1.31 lei/kg), +14.66% North-West Region (absolute increase of 0.17 lei/kg, respectively an effective indicator level of 1.33 lei/kg), +45.69% Central Region (absolute increase of 0.53 lei/kg, respectively an effective indicator level of 1.69 lei/kg), +46.55% South-West Oltenia Region (absolute increase of 0.54 lei/kg, respectively an effective indicator level of 1.70 lei/kg), +47.41% West Region (absolute increase of 0.55 lei/kg, respectively an effective indicator level of 1.71 lei/kg).

If we analyze the specific situation for autumn-winter production, there is a national price level of 1.14 lei / kg, compared to which there are four regional subunit levels and 4 supra-unitary regional levels. The regions positioned below the

national level were: Bucharest-Ilfov with 0.34 lei/kg (effective indicator level of 0.80 lei/kg, which determined a relative decrease of 29.82% compared to the reference base), Center with 0.12 lei/kg (effective level of 1.02 lei/kg, relative decrease of 10.53%), South-East with 0.03 lei/kg (effective level of 1.11 lei/kg, relative decrease of 2.63%) and South Muntenia with 0.01 lei/kg (effective level of 1.13 lei/kg, relative decrease of 0.88%).

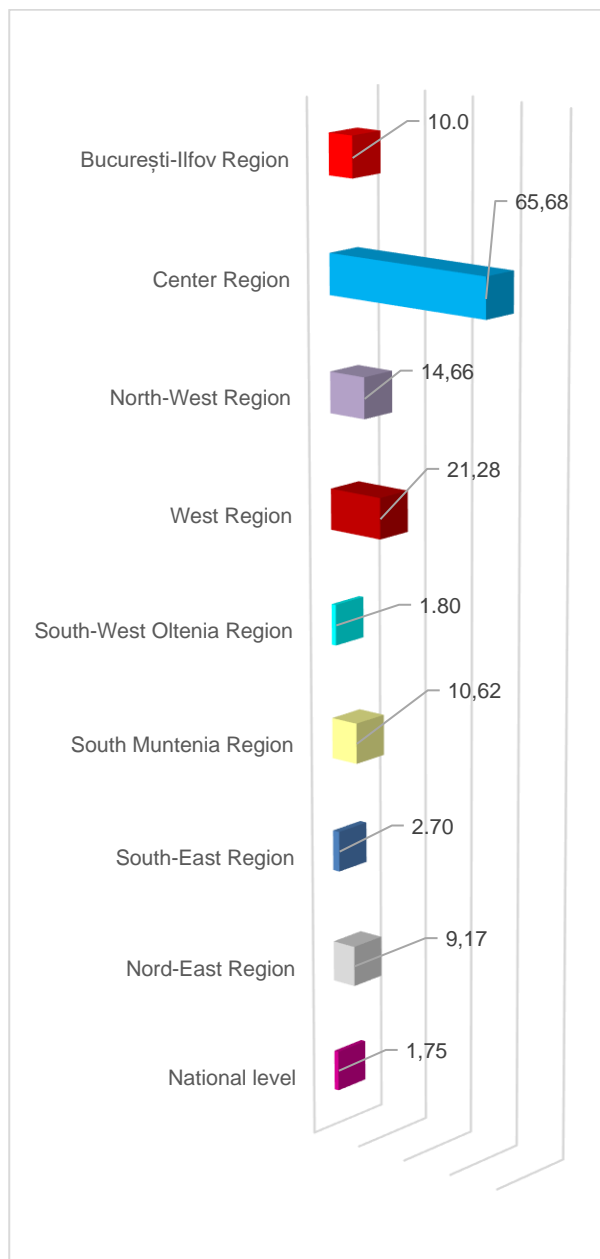
Above the national level were the regions: North-West with 0.02 lei/kg (effective level of 1.16 lei/kg, which determined a relative increase of 1.75%), North-East with 0.06 lei/kg (effective level of 1.20 lei/kg, relative increase of 5.26%), West with 0.37 lei/kg (effective level of 1.41 lei/kg, relative increase of 23.68%) and South-West Oltenia with 0.53 lei/kg (effective level of 1.67 lei/kg, relative growth of 46.49%).

Comparing the specific situation of early, semi-early and summer potatoes with the state of affairs that characterizes autumn potatoes, it is noted that the latter category is consistently exceeded for all reference levels (Fig. 1).

There are insignificant differences at national level and those in the case of South-West Oltenia and South-East regions, more pronounced differences specific to the North-East, South Muntenia and Bucharest-Ilfov regions, as well as more significant differences in the North-West and West regions. The situation of



the Central Region is atypical, the price differences being very pronounced.



**Fig. 1. Price positioning of early potatoes compared to autumn potatoes price – average of 2018-2022 (±% - own calculations)**

## CONCLUSIONS

For early, semi-early and summer potato, there is an uneven evolution of the indicator at national level, a situation that is also manifested at the level of the eight development regions. There is a total amplitude of price variation of 1.96 lei/kg.

In the case of autumn production, the uneven evolution of the price at national level is maintained, a situation that is found for the vast majority of development regions, except for the Bucharest-Ilfov Region where there was a strictly upward trend of the indicator. The total amplitude of variation in the price for autumn potatoes was 1.48 lei/kg.

We can consider that the price differences existing between early production and autumn-winter production do not most often justify (at the level of producers) the practice of early cultivation that requires special technological conditions (an aspect highlighted at least by the need to irrigate the crop).

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