

## PRICE INDICES IN AGRICULTURE, THIRD QUARTER OF 2021<sup>1</sup>

### Producer price indices in agriculture

**The producer price index in agriculture** in the third quarter of 2021 increased by 19.8% in comparison with the same quarter of 2020. The price index of the crop output increased by 23.2% and the animal output increased by 1.6%. In comparison with the previous year, the prices of agricultural products went up by 15.5%, as in the crop output they increased by 18.2%, and in the animal output, the increase is by 1.4% (Table 1).

In the third quarter of 2021 compared to the same quarter of 2020 higher were the prices of: cereals - by 22.9%, industrial crops - by 36.1%, fodder crops - by 8.9% and fresh fruits - by 2.4%. An increase was reported in the prices of: soft wheat - by 18.8%, sunflower - by 41.2%, fodder maize - by 22.4%, tomatoes - by 4.1%, green pepper - by 7.6% and wine grape - by 11.9%. Lower were the prices of: potatoes - by 16.0%, and apples - by 9.8%.

Compared to the corresponding quarter of 2020 the prices of live animals decreased by 3.3% as a result of a drop in the prices of pigs - by 14.4%, goats - by 4.5%, and hens - by 20.8%. An increase was reported in the prices of cattle - by 2.2% and of sheep - by 4.0%. In the prices of animal products increase was registered by 5.3%, which was in result of higher prices of cow milk - by 1.9%, sheep and goat milk - by 8.3% and hen eggs for consumption - by 2.6%. A decrease was observed in the prices of buffalo milk - by 2.9%.

Compared to 2020 in the third quarter of 2021 higher were the prices of: cereals - by 18.3%, industrial crops - by 28.3%, fodder crops - by 6.9%, fresh fruits - by 2.4%. An increase was reported in the prices of: soft wheat - by 13.9%, maize - by 29.3%, sunflower - by 29.4%, cabbages - by 5.3%, and wine grape - by 2.3%. Lower were the prices of hay from meadow - by 6.9%, tomatoes - by 2.3%, carrots - by 1.9% and potatoes - by 14.4%.

In the animal output in the third quarter of 2021 compared to 2020, the prices of the animals went down by 5.0%. It was registered a drop in the prices of pigs - by 18.2%, and goats - by 5.6%. An increase was observed in the prices of cattle - by 1.8%, sheep - by 3.6% and chickens - by 1.3%. The prices of animal product output increased by 6.2%, which was as a result of the increase in the prices of cow milk - by 3.6%, buffalo milk - by 0.5%, sheep milk - by 10.1%, goat milk - by 2.1% and hen eggs for consumption - by 1.4%.

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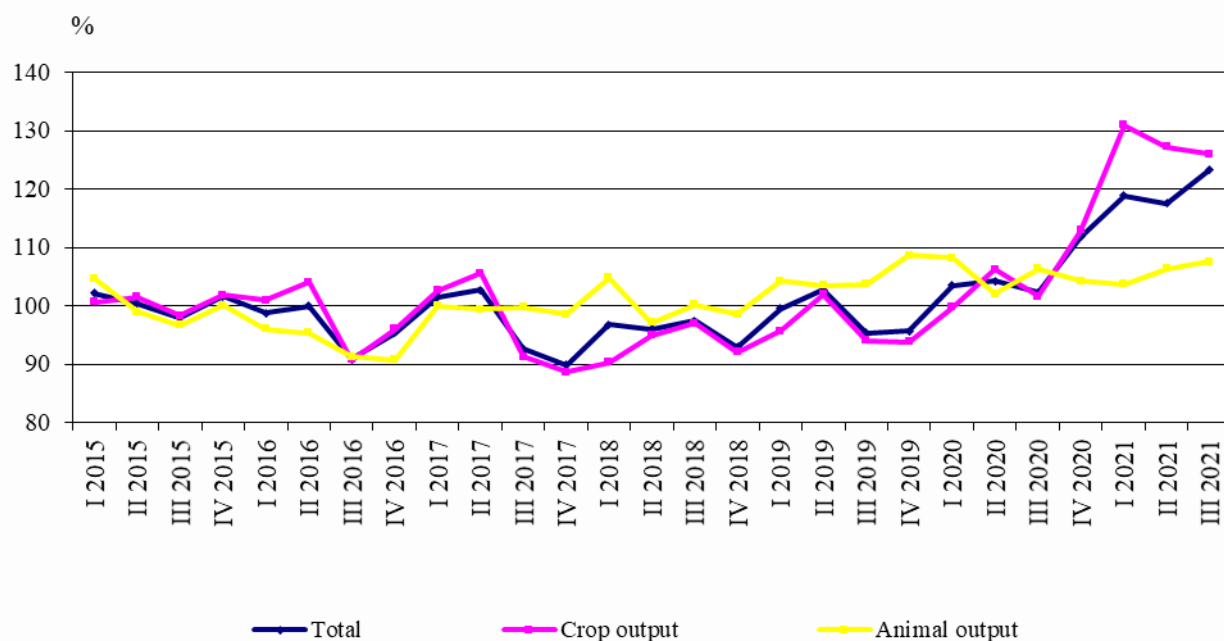
<sup>1</sup> The Agricultural Price Indices were calculated in compliance with requirements of Handbook for EU Agricultural Price Statistics, version 2.0, March 2008. The Handbook was uploaded on the NSI website at the following link: [http://www.nsi.bg/sites/default/files/files/metadadata/Agr\\_Handbook\\_en.pdf](http://www.nsi.bg/sites/default/files/files/metadadata/Agr_Handbook_en.pdf).

### 1. Producer prices indices in agriculture in the third quarter of 2021

(Percent)

	2015 = 100	Corresponding quarter of 2020=100	2020 = 100
<b>Total</b>	<b>123.3</b>	<b>119.8</b>	<b>115.5</b>
Crop output	126.0	123.2	118.2
Animal output	107.6	101.6	101.4

**Figure 1. Producer prices indices in agriculture, by quarters (2015 = 100)**



## Price indices of goods and services currently consumed in agriculture

The index of prices of goods and services currently consumed in agriculture in the third quarter of 2021 was higher by 14.0% compared to the same quarter of the previous year and by 12.8% compared to 2020.

In the third quarter of 2021 compared to the corresponding quarter of 2020 there was an increase in the prices of: electricity and fuels - by 24.1%, mineral fertilizers - by 40.5%, plant protection products - by 0.1%, veterinary medicinal products - by 1.9%, and animal feeding stuffs - by 11.5%.

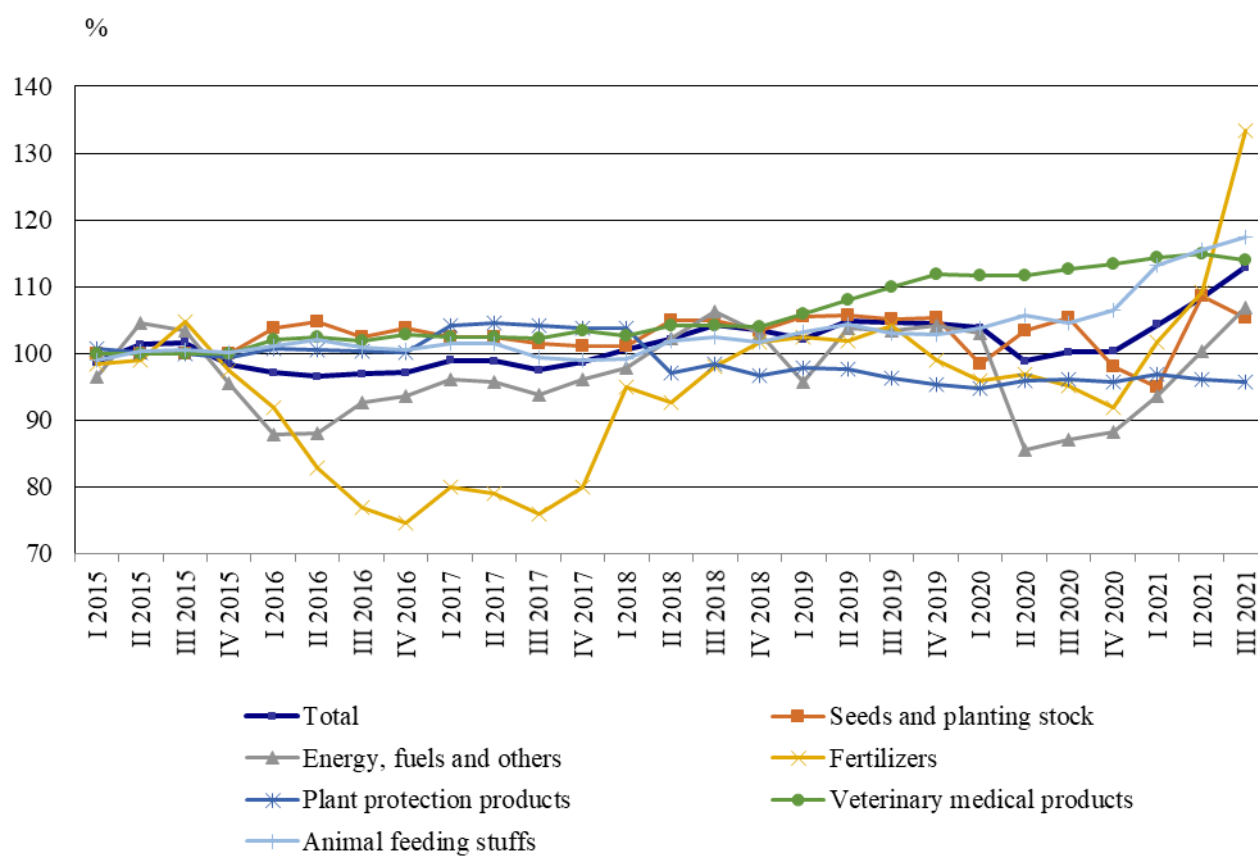
In the third quarter of 2021 compared to 2020 there was an increase in the prices of: seeds and planting stock - by 3.6%, electricity and fuels - by 18.2%, mineral fertilizers - by 40.9%, plant protection products - by 0.8%, veterinary products - by 2.1%, and animal feeding stuffs - by 11.1% (Table 2).

### 2. Price indices of the goods and services currently consumed in agriculture, third quarter of 2021

(Per cent)

	2015 = 100	Corresponding quarter of 2020 = 100	2020 = 100
<b>Total</b>	<b>112.9</b>	<b>114.0</b>	<b>112.8</b>
Seeds and planting stock	105.4	100.0	103.6
Energy, fuels and others	106.8	124.1	118.2
Fertilizers	133.3	140.5	140.9
Plant protection products	95.8	100.1	100.8
Veterinary medical products	114.0	101.9	102.1
Animal feeding stuffs	117.4	111.5	111.1
Maintenance of materials	120.3	102.8	103.5
Maintenance of buildings	113.7	105.7	105.9
Other goods and services	115.1	102.8	103.1

**Figure 2. Prices indices of the goods and services currently consumed in agriculture, by quarters (2015 = 100)**



## Methodological notes

### Methodology and main definition

The surveys about the prices in agriculture are carried out in accordance with the main requirements of the EU Handbook for Agricultural Price Indices. In this way harmonization with the EU practices in the domain of agricultural price statistics is achieved from the point of view of:

- Definitions used
- Techniques of prices registration
- Type of calculated indices
- Survey periodicity
- Nomenclatures used
- Defining the selected products by their quality, quantity, variety and other price characteristics.

The object of observation are the producer prices of produced by the farm crops, live animals and animal products and prices of products and services of goods and services currently consumed in agriculture.

Producer price in agriculture is the price received by farm selling its agricultural products/live animals. It is recorded at the first market stage of goods – ‘farm gate price’. Producer price excludes subsidies on agricultural products/animals, transport costs and taxes. VAT is also excluded from the price.

The examination of prices of goods and services currently consumed in agriculture (Input I) includes five surveys which supply the information about the prices of:

- Mineral fertilizers
- Feeding stuffs
- Plant protection products
- Veterinary medicinal products
- Seeds and planting stocks.

The object of observation is the purchase price of goods and services currently consumed in agriculture. The observed unit price is the price that the buyer actually paid for the means of production. It includes taxes and fees and excludes subsidies and VAT refunded.

### Statistical unit

Observation units within the surveys of agricultural prices are farms - juridical and physical persons and agricultural and veterinary pharmacies. For each survey, a list of respondents is established and during the years a stable number of price registrations of products/livestock categories and means of production is maintained.

The conducted surveys are exhaustive and include all units above a certain threshold defined in value terms. For the survey on the producer prices in agriculture as selection criteria a value of sales of agricultural products/animals is used and for the surveys on the prices of goods and services currently consumed in agriculture - the expenditures rising from purchases of goods and services for intermediate consumption. The representativeness of prices is assured, both by the maintaining of a regular number of price registrations and coverage of at least 50% of the value of sales for each product/livestock category or purchase value of goods and services for intermediate consumption in the respective year.

### **Data sources**

The sources of information are statistical questionnaires for the collection of qualitative and quantitative characteristics of agricultural products/live animals and goods and services currently consumed in agriculture and quarterly questionnaires supplying information about the producer prices of agricultural products/live animals and purchasing prices of goods and services currently consumed in agriculture.

The questionnaires on the qualitative and quantitative characteristics of agricultural products/live animals and goods and services currently consumed in agriculture supply data for the establishment of a list of representative products defined with their quantitative and qualitative, variety and other characteristics which may influence the variation of prices. The established lists of products are periodically updated, as usual in the years ending to 0 or 5, when the Eurostat weighting scheme is rebased.

The quarterly questionnaires supply regular data about the prices of included in the scope of surveys agricultural products/live animals or goods and services currently consumed in agriculture.

### **Calculation of average prices**

Within the quarterly surveys, average monthly and quarterly prices are calculated. The average monthly prices are calculated as arithmetical mean derived from all registered prices. The quarterly prices are calculated as arithmetical mean from monthly prices.

### **Type of index and calculation**

The calculation of price indices is carried out by the Laspeyres formula. This type of index has a constant weighting scheme, so that the base period of weights and prices is the same. For calculation of producer price indices as weights the value of sales of agricultural output is used and for the indices of prices of goods and services currently consumed in agriculture - the value of purchased intermediate consumption. The weights are calculated within satellite economic accounts for agriculture.

The indices are calculated at three bases: a previous year, a corresponding quarter of the previous year and the year ending in 0 or 5 (Eurostat base).

The total index of goods and services currently consumed in agriculture (Input I) is calculated on the basis of price indices of five groups of products as well as on the indices of goods and services calculated within the Survey on consumer prices index.

## Classifications

For the survey of producer prices in agriculture, the National classification of production in agriculture, forestry and fisheries (PRODAGRO) is used. Classification PRODAGRO is used as a basis for further product breakdown in accordance with their qualitative and quantitative characteristics. For the surveys on prices of goods and services currently consumed in agriculture own proper classifications are used. These classifications are compiled within the surveys for the establishment of a lists of representative products. For calculation and providing Eurostat with harmonized data of price indices in agriculture classification PRAG (Nomenclature of agricultural prices in the Eurostat New CRONOS database) is used.

### **Consideration of the impact of quality on the prices of agricultural products**

To eliminate differences in prices associated with changes in the quality, type, quantity, packaging, selected products are defined by quality, quantity, species and other characteristics that affect the changes of prices. When a particular product is dropped down from the list it has to be replaced by a new one defined by the same or approximately similar characteristics. The new product should also be representative.

### **The calculation of the indices of goods and services contributing to the agricultural investments (Input II)**

The calculation of the price index of goods and services contributing to agricultural investments is also done by a Laspeyres formula. As weights, the values of goods and services purchased by farms for further investments, calculated within the satellite economic accounts for agriculture are used. For calculation of the total index of goods and services contributing to agricultural investments indices from other surveys conducted by NSI in the domain of the Consumer prices Statistics, Foreign trade statistics and Short-term business statistics are also used.

On the basis of indices of goods and services currently consumed in agriculture and contributing to agricultural investments, the total index of prices of means of production used in agriculture (Total Input) is calculated.