

PRICE INDICES IN AGRICULTURE, FIRST QUARTER OF 2020¹

Producer price indices in agriculture

The producer price index in agriculture in the first quarter of 2020 increased by 6.0% in comparison with the same quarter of 2019. The crop output index increased by 5.9% and the animal output index increased by 6.3%. In comparison with previous year, the prices of agricultural output went up by 7.7% as the increase in crop output price index was by 9.4% and in animal output price index increase was by 4.4% (Table 1).

In first quarter of 2020 compared to the same quarter of 2019, increase was observed in the prices of industrial crops - by 13.0% and forage plants - by 7.5%. The prices of cereals went down by 0.4% and fresh vegetables - by 3.6%. Increase was reported in the prices of maize - by 2.0%, sunflower - by 18.0%, hay from meadow - by 11.0% and tomatoes under glass - by 21.7%. Lower were the prices of soft wheat - by 4.0%, barley - by 11.5%, beans - by 15.5%, lucerne - by 4.3%, cucumbers under glass - by 17.6%, and apples - by 12.1%.

Compared to the corresponding quarter of 2019 increase was observed in the price of live animals - by 21.1%. This was in result of increment in the prices of pigs - by 42.3%, cattle - by 12.2%, sheep - by 8.6%, and poultry - 1.3%. In the animal products, increase was registered in the prices of sheep milk - by 4.4%, goat milk - by 16.4% and hen eggs for consumption - by 0.7%. A decrease was reported in the prices of cow milk by 6.2% and buffalo milk - by 10.1%.

Compared to 2019 in the first quarter of 2020 increase was registered in the prices of cereals - by 6.6%, industrial crops - by 12.1%, forage plants - by 8.3%, fresh vegetables - by 24.6% and fresh fruits - by 13.5%. In the animal output the prices of live animals went up - by 11.2% and animal products went down - by 0.2%.

In first quarter of 2020 compared to 2019 increase was reported in the prices of soft wheat - by 9.6%, maize - by 5.3%, sunflower - by 17.0% and hay from meadow - by 9.4%. Lower were the prices of not husked rice - by 1.0%, lettuces - by 3.9% and potatoes - by 2.5%.

In the animal output in first quarter of 2020 compared to 2019 increase was observed in the prices of all main livestock categories, excluding hens, which prices went down by 8.8%. The price of pigs increased by 21.6%, as well as the prices of cattle - by 4.3%, and sheep - by 9.7%. In the animal products output increase was observed in the prices of goat milk - by 28.5% and sheep milk - by 6.1%. Decrease was observed in the prices of cow milk - by 2.0%.

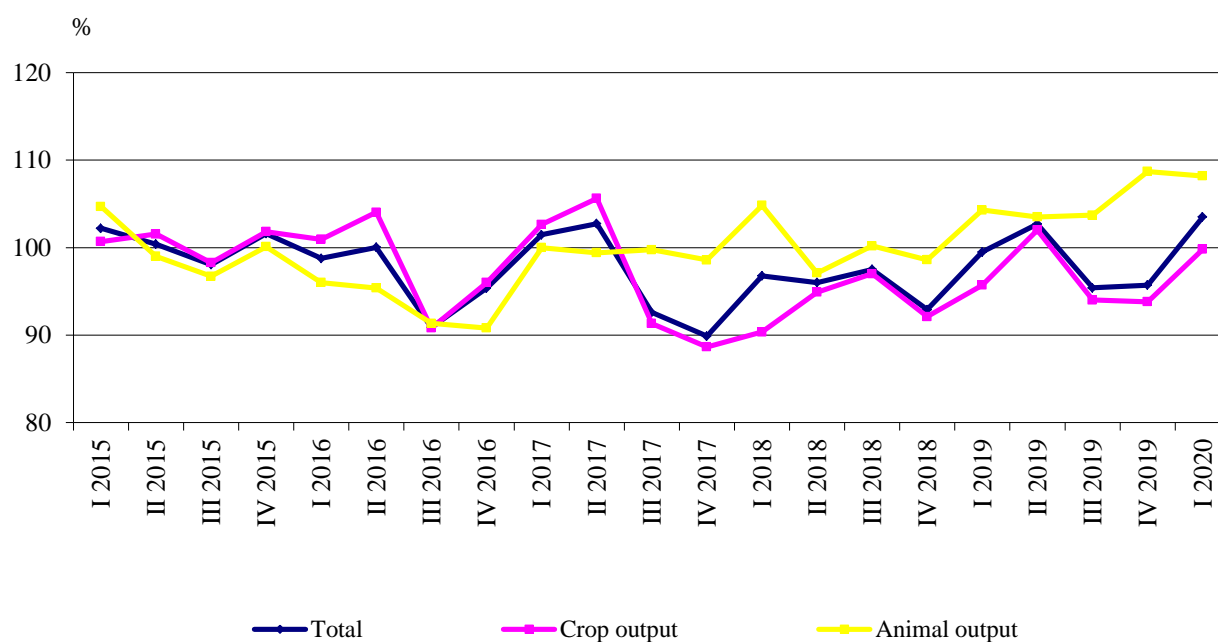
¹ The Agricultural Price Indices were calculated in compliance with requirements of Handbook for EU Agricultural Price Statistics, version 2.0, March 2008. The Handbook was uploaded on the NSI website at the following link: http://www.nsi.bg/sites/default/files/files/metadata/Agr_Handbook_en.pdf.

1. Producer prices indices in agriculture in the first quarter of 2020

(Per cent)

	2015 = 100	Corresponding quarter of 2019 = 100	2019 = 100
Total	103.5	106.0	107.7
Crop output	99.8	105.9	109.4
Animal output	108.2	106.3	104.4

**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 first quarter of 2020 was by 2.4% higher compared to the same quarter of previous year and by 0.1% compared to 2019.

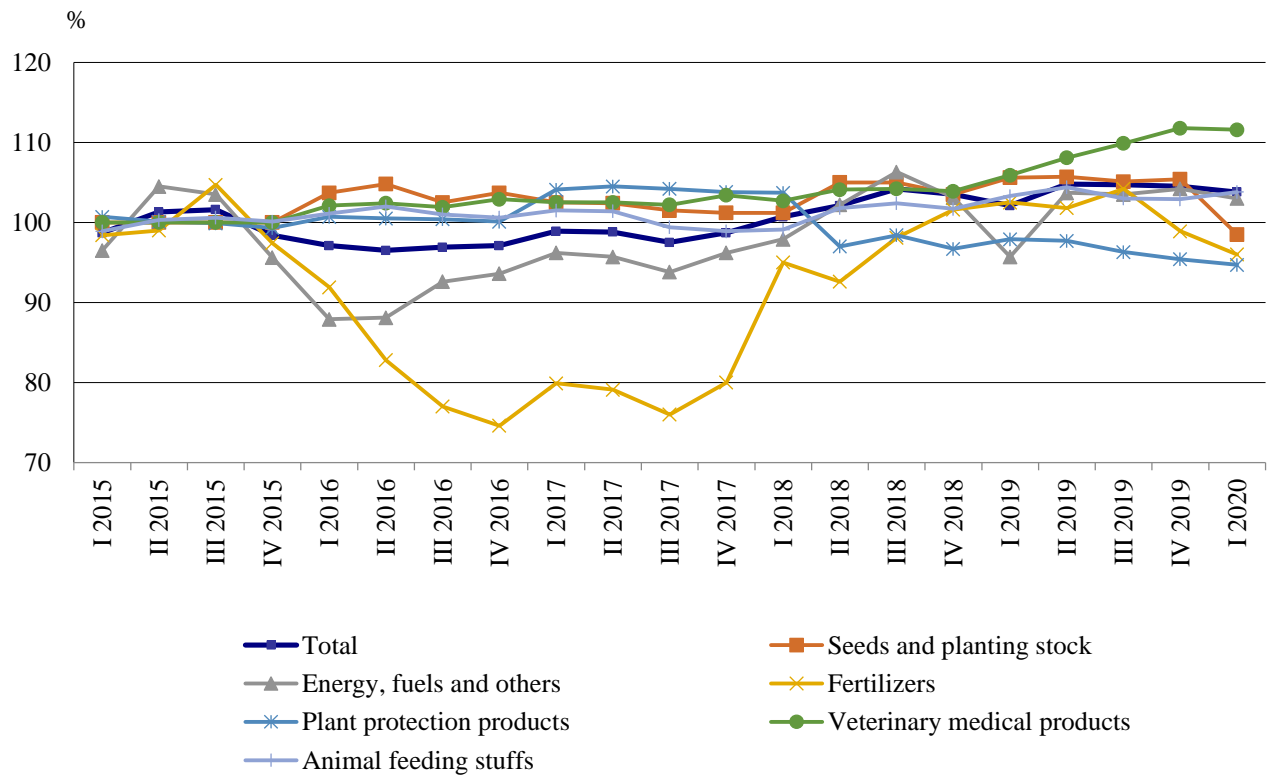
In first quarter of 2020 compared to corresponding quarter of 2019 higher were the prices of energy and fuels - by 7.8%, veterinary medical products - by 5.6% and animal feeding stuffs - by 2.5%. Lower were the prices of seeds and planting stock - by 3.5%, fertilisers - by 5.2%, plant protection products - by 3.1%.

Compared to 2019 in first quarter of 2020 the prices of energy and fuels went up by 1.1%, veterinary medical products - by 2.6% and animal feeding stuffs - by 1.1%. Lower were the prices of seeds and planting stock - by 1.2%, as well as fertilisers - by 5.5% and plant protection products - by 1.7% (Table 2).

2. Price indices of the goods and services currently consumed in agriculture, first quarter of 2020

	(Per cent)		
	2015 = 100	Corresponding quarter of 2019 = 100	2019 = 100
Total	103.8	102.4	100.1
Seeds and planting stock	98.5	96.5	98.8
Energy, fuels and others	103.0	107.8	101.1
Fertilizers	96.0	94.8	94.5
Plant protection products	94.7	96.9	98.3
Veterinary medical products	111.6	105.6	102.6
Animal feeding stuffs	103.8	102.5	101.1
Maintenance of materials	114.5	101.1	100.7
Maintenance of buildings	106.8	101.3	100.9
Other goods and services	109.5	102.0	101.2

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 of 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 own 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 in 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 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 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 regular number of price registrations and coverage of at least of 50% of 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 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 establishment of list of representative products defined with their quantitative and qualitative, variety and other characteristics which may have influence on 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: previous year, corresponding quarter of 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 base 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 establishment of 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 particular product is dropped down from the list it has to be replaced by a new one defined by 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 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 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, total index of prices of means of production used in agriculture (Total Input) is calculated.