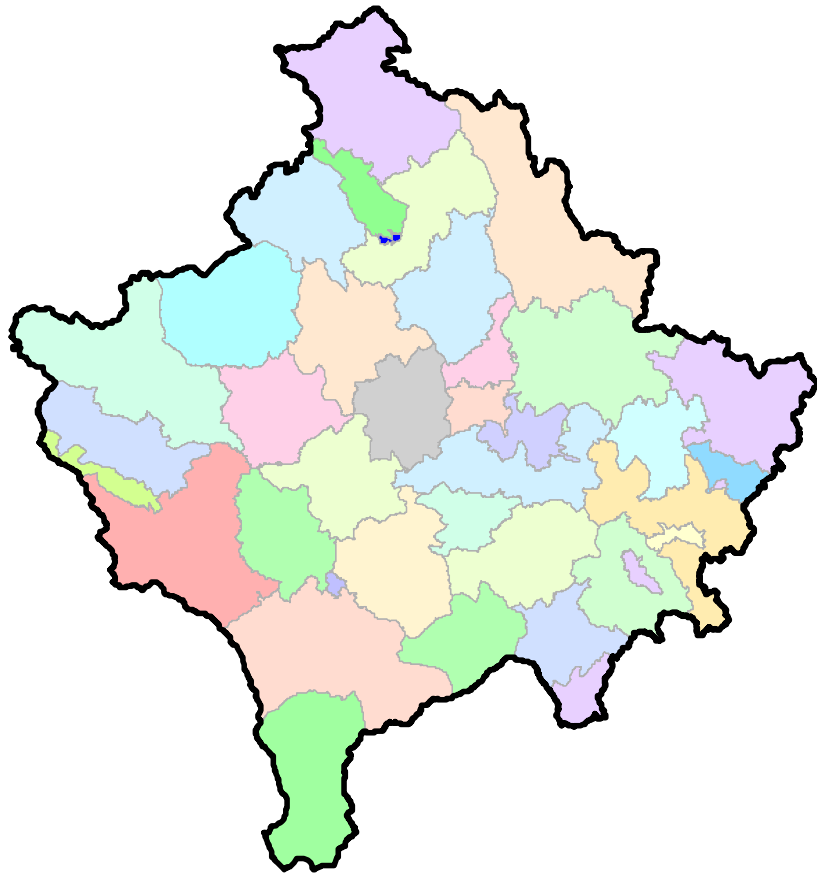




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Series 2: Agriculture and Environment Statistics

Output Price Index and Prices in Agriculture Q3 – 2017



AGJENCIA E STATISTIKAVE TË KOSOVËS
AGENCIJA ZA STATISTIKE KOSOVA
KOSOVO AGENCY OF STATISTICS

Preface

Kosovo Agency of Statistics respectively Department of Agriculture and Environment Statistics, has begun to collect data on prices for agricultural products since November 2003. In the beginning the number of items was limited. With the change of base year from 2003 to base year 2005, prices were collected for 64 items agricultural products. Currently with the change of basic year from 2005 to 2010, prices are collected for 67 items agricultural products. The purpose of Output price index is to measure the price movements for the products sold by the farmer. Plan for the future is to increase the number of products. As a complement to the Output price index is the Input Price Index.

The change of the base year, for Output price index and agricultural price production is done based on the recommendations of Eurostat, relying on Handbook for EU Agricultural Price Statistics Version 2.0 March 2008 from the base year 2005 = 100 in the base year 2010 = 100, where the change of base year is recommended to be carried out in every five years

This is the forty six publication on Output Price Index of Agricultural Products and the absolute average prices of agricultural products produced by Kosovo Agency of Statistics. In this publication, the Output Price Index of Agricultural Products is introduced for some major agriculture products.

Kosovo Agency of Statistics is grateful to the Swedish International Development Cooperation Agency (SIDA) for the support in building up the agro monetary statistical system.

KAS is also grateful for the cooperation to all associates from KAS' regional offices, the collaborators (respondents) from the holdings where the prices have been collected such as: agricultural farms, industrial enterprises, commercial etc.

We are especially grateful to Swedish experts for price statistics, Mr. Anders Grönvall, Mr. Jimmie Enhall and others who directly or indirectly assisted on finalization of this publication.

Suggestions, proposals and remarks for this publication are welcome and can be sent to: E-mail: agriculture@ks-gov.net.

This publication was prepared by following personnel:

Bajrush Qevani – Director of department,
Violeta Arifi – Gashi – Chief of division,
Kademsha Bajramaga – Statistical officer

Prishtina, November 2017

Chief Executive, KAS
Isa Krasniqi

Abbreviations and Acronyms

KAS	Kosovo Agency of Statistics
API	Agriculture Price Index
EU	European Union
SIDA	Swedish International Development Cooperation Agency
Q3	Third quarter

Key to symbols

.	Not aplicable
‰	Promile

In the tables where figures have (weight) have been rounded to the nearest final digit might be a slight discrepancy in the sum.

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Output Price Index for agriculture products

The publication includes data from Jul to September 2017 To make comparisons and see changes there are also data from third quarters 2010 to 2017 (2010=100).

This publication is based on collection of prices for domestic products in Kosovo. The price collection was carried out at markets, farms and other places where prices on agriculture products are available.

The products which make up the base for the Output Price Index are divided into two main groups: Crop - and Animal Output. Within Crop Output, prices are collected under the following groups; Cereals, Forage plants, Vegetables, Potatoes and Fruits. Within Animal Output, prices are collected for Animals and Animal Product. For Animals prices are collected for four categories; Cattle, Sheep, Pigs and Poultry. These prices are based on the live weight of the animals. Within animal products prices are collected for Milk, Eggs and Honey. All prices are calculated in Euro and the measurement unit is in kg, liter and piece.

Figure 1, 2 and 3 shows Monthly Output Price Index from January - December 2016 and third quarter 2017 for Total Output as well as for Crop and Animal Output (2010 = 100).

In the third quarter 2017 the index for Animal Output has increased by 1.33 % compared to the same period 2016. The index for Crop Output has increased by 0.99 % compared to the same period 2016. Total Output Index has also increased compared to the same period 2016 by 1.13 %.

Figure 1: Monthly Output Price Index for Crop Output, January – December 2016 and third quarters 2017 (2010=100)

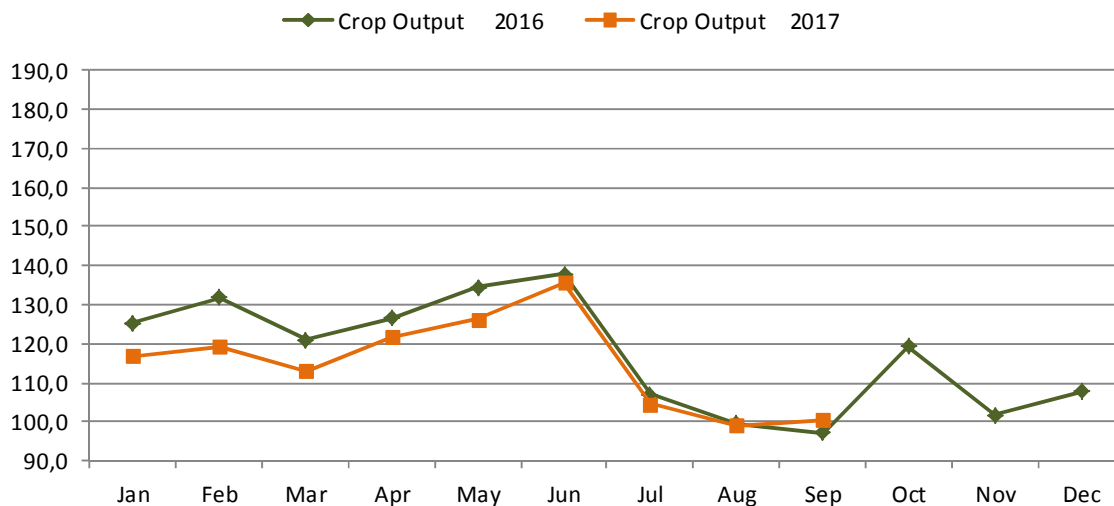


Figure 2: Monthly Output Price Index for Animal Output January – December 2016 and third quarters 2017 (2010=100)

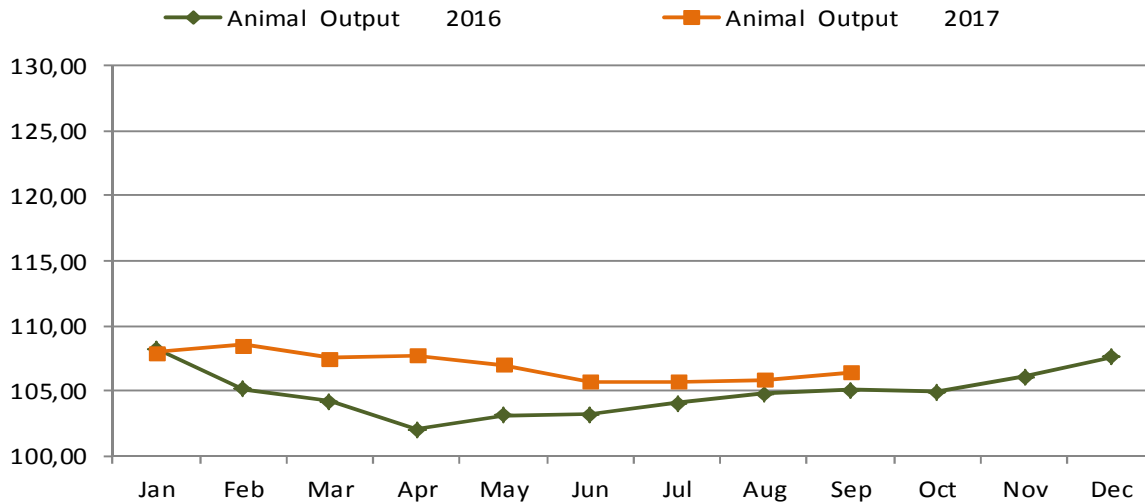
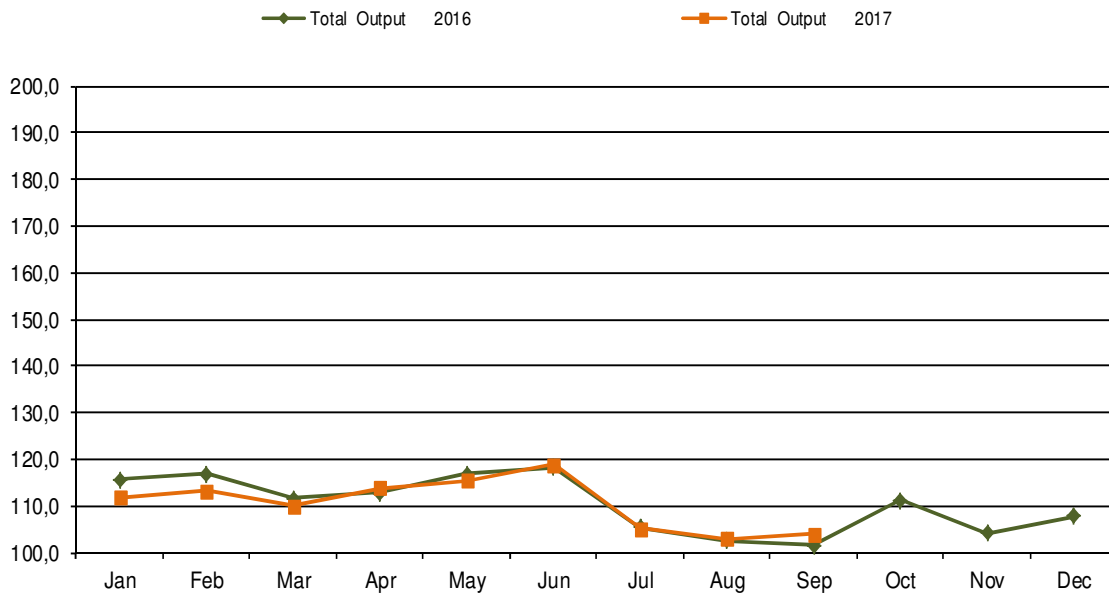


Figure 3: Monthly Output Price Index for Total Output, January – December 2016 and third quarters 2017 (2010=100)



Agricultural Output Price Index Q3**Table 1: Agricultural Output Price Index, Q3 2010 - 2017 (2010=100)**

API code	Description	Q3-2010	Q3-2011	Q3-2012	Q3-2013	Q3-2014	Q3-2015	Q3-2016	Q3-2017
010000	CEREALS (including seeds)	101,5	124,4	135,1	105,0	106,9	100,7	83,2	82,3
011000	Wheat and spelt	100,5	122,2	135,6	99,5	103,9	98,9	78,6	78,6
011100	Soft wheat and spelt	100,5	122,2	135,6	99,5	103,9	98,9	78,6	78,6
012000	Rye and meslin	100,4	121,8	119,5	129,0	118,7	116,6	113,1	117,0
013000	Barley	99,1	120,0	134,1	148,3	153,3	139,2	133,0	130,9
013200	Malting barley	99,1	120,0	134,1	148,3	153,3	139,2	133,0	130,9
014000	Oats and summer cereal mixtures	94,0	122,8	121,3	153,8	121,8	121,9	114,2	120,5
015000	Grain maize	112,1	143,9	135,6	134,5	123,1	106,5	107,3	97,2
030000	FORAGE PLANTS	87,7	100,4	129,6	131,2	121,1	111,5	122,8	122,6
031000	Fodder maize	108,5	143,5	116,5	137,3	105,7	103,8	105,9	94,6
032000	Fodder root crops (including forage beet)	.	.	.	.	.	.	.	.
039000	Other forage plants	87,6	100,1	129,7	131,2	121,3	111,6	123,0	122,8
040000	VEGETABLES AND HORTICULTURAL PRODUCTS	93,1	79,5	99,5	98,5	110,5	110,3	99,0	97,8
041000	Fresh vegetables	93,1	79,5	99,5	98,5	110,5	110,3	99,0	97,8
041100	Cauliflower	107,7	90,9	148,1	122,1	104,0	109,8	112,8	110,3
041200	Tomatoes	91,8	64,0	112,2	90,5	106,9	84,8	96,6	87,6
041900	Other fresh vegetables	93,7	87,3	93,0	102,5	112,3	123,3	100,2	103,0
042000	Plants and flowers	.	.	.	.	.	.	.	.
050000	POTATOES (including seeds)	101,0	81,4	113,9	151,3	103,7	104,4	104,1	96,7
051000	Potatoes for consumption	101,0	81,4	113,9	151,3	103,7	104,4	104,1	96,7
060000	FRUITS	98,9	106,7	100,4	104,6	122,4	111,9	104,7	132,5
061000	Fresh fruit (excluding citrus fruit and grapes)	101,3	96,1	102,0	98,6	120,6	106,9	107,3	142,7
061100	Dessert apples	109,9	104,2	114,2	109,9	120,4	118,4	107,0	131,9
061200	Dessert pears	97,4	98,8	94,6	105,9	118,1	97,4	102,6	115,0
061300	Peaches	101,1	93,1	102,3	106,2	97,1	98,4	124,3	109,2
061900	Other fresh fruit, nuts and dried fruit	97,5	91,9	96,8	92,1	121,2	102,3	107,8	151,5
062000	Citrus fruit	.	.	.	.	.	.	.	.
063000	Tropical fruit	.	.	.	.	.	.	.	.
064000	Grapes	96,0	119,7	98,4	112,1	124,6	118,1	101,5	120,0
100000	CROP OUTPUT (010000 TO 090000), including fruits (060000) and vegetables (040000)	94,3	84,4	104,0	104,3	110,5	109,3	99,3	98,8
101000	CROP OUTPUT (010000 TO 090000), excluding fruits (060000) and vegetables (040000)	98,9	101,1	124,8	130,1	108,0	104,2	99,4	95,7
110000	ANIMALS	100,4	106,6	112,7	114,9	116,5	112,6	109,2	110,3
111000	Cattle	100,8	107,9	115,6	115,8	118,7	111,9	108,8	109,7
111100	Cattle excluding calves	100,8	107,9	115,4	115,9	118,6	109,6	107,4	109,3
111200	Calves	100,7	108,0	116,1	115,2	118,9	121,5	114,6	111,3
112000	Pigs	100,2	99,8	103,9	111,0	114,2	109,0	104,2	108,4
113000	Equines	.	.	.	.	.	.	.	.
114000	Sheep and goats	99,8	107,3	110,5	115,2	111,2	113,9	110,7	110,9
115000	Poultry	98,8	108,3	111,1	112,8	119,5	127,8	125,5	123,1
115100	Chickens	98,8	108,3	111,1	112,8	119,5	127,8	125,5	123,1
115900	Other poultry	98,8	108,3	111,1	112,8	119,5	127,8	125,5	123,1
119000	Other animals	.	.	.	.	.	.	.	.
120000	ANIMAL PRODUCTS	98,2	103,6	110,7	112,6	115,0	102,8	103,2	104,6
121000	Milk	98,0	102,7	109,8	112,1	114,7	102,5	102,2	104,4
121100	Cows' milk	98,0	102,7	109,8	112,1	114,7	102,5	102,2	104,4
121900	Other milk types	.	.	.	.	.	.	.	.
122000	Eggs	101,6	122,0	130,1	122,5	122,3	102,0	115,8	100,9
129000	Other animal products	98,9	108,5	115,6	122,0	117,5	132,3	132,9	138,7
130000	ANIMAL OUTPUT (110000+120000)	98,7	104,3	111,1	113,1	115,4	105,2	104,6	106,0
140000	AGRICULTURAL GOODS OUTPUT (100000+130000), including fruits (060000) and vegetables (040000)	96,0	92,1	106,8	107,7	112,4	107,7	101,3	101,6
141000	AGRICULTURAL GOODS OUTPUT (101000+130000), excluding fruits (060000) and vegetables (040000)	98,7	103,6	114,1	116,8	113,8	105,0	103,5	103,8

Changes in Output Price Index

Table 3: Changes in Output Price Index for same month Jul – September 2017 / 2016 (2010 =100), percent

Item Code	Groups	Weight		Jul - 16/ Jul - 17 % change	Aug - 16 / Aug - 17 % change	Sep -16 / Sep -17 % change
		%	1000 Euro			
0 1	Cereals	44	14 173	-4,1	-3,3	-1,2
0 1.1	Wheat	32	10 360	0,0	0,0	0,0
0 1.3	Barley	1	191	-1,8	-9,2	6,9
0 1.5	Maize	10	3 248	-14,6	-11,4	-5,9
0 1.9	Other cereals	1	375	2,4	1,4	10,2
0 3	Forage plants	18	5 681	-6,3	-5,7	3,3
0 3.1	Fodder maize	0	45	-15,1	-11,4	-4,2
0 3.9	Other forage plants	17	5 637	-6,2	-5,7	3,3
0 3.9.1	Hay	10	3 149	-4,2	-4,6	6,8
0 3.9.2	Straw	4	1 234	-15,5	-13,0	-9,1
0 3.9.9	Other forage plants;others	4	1 254	-3,6	-2,5	4,9
0 4	Vegetables	278	89 583	-4,9	-3,0	2,6
0 4.1	Fresh vegetables	278	89 583	-4,9	-3,0	2,6
0 4.1.2	Tomatoes	89	28 805	.	-17,2	5,7
0 4.1.9	Other fresh vegetables	188	60 778	4,1	3,6	1,4
0 4.1.9	Pepper	139	44 751	.	5,8	-0,3
0 4.1.9.1	Cabbage	9	2 863	.	.	-2,8
0 4.1.9.4	Cucumbers	13	4 054	.	-10,0	5,1
0 4.1.9.6	Onions	8	2 426	-3,6	2,0	-13,2
0 4.1.9.7	Beans	7	2 318	16,6	16,0	12,4
0 4.1.9	Water melon	9	2 775	.	.	.
0 4.1.9.9.9	Other fresh vegetable;other	5	1 592	-3,8	-4,1	7,7
0 5	Potatoes	56	18 225	0,0	-4,7	-10,6
0 6	Fruits	42	13 515	8,9	27,4	32,4
0 6.1	Fresh fruits	14	4 420	8,9	48,6	43,0
0 6.1.1	Apple	6	1 966	.	.	.
0 6.1.2	Pears	1	453	.	.	.
0 6.1.9	Other fresh fruit	6	2 001	7,7	52,7	70,3
0 6.1.9.2	Plums	4	1 258	.	.	.
0 6.1.9.4	Nuts and dried fruit	1	231	17,8	17,8	19,0
0 6.1.9.9	Other fresh fruits; other	2	512	.	13,2	26,0
0 6.4.1	Desert grapes	9	2 975	.	.	.
0 6.4.9	Wine grapes	19	6 120	.	.	.
10	Crop Output	438	141 178	-2,6	-0,4	3,4
11	Animals	135	43 658	3,0	0,8	-0,8
11.1	Cattle	83	26 729	3,0	-0,1	-0,4
11.2	Pigs	20	6 307	6,1	5,9	0,0
11.4	Sheep	27	8 781	1,8	1,8	-2,8
11.5	Poultry	6	1 842	0,0	-5,3	-0,4
11,9	Other animals (horses)	0	-	.	.	.
12	Animal Products	427	137 766	1,1	1,1	2,1
12.1	Milk	405	130 566	1,4	1,9	2,9
12.2	Eggs	17	5 539	5,9	5,9	1,4
12.9	Other animal products	5	1 660	5,9	5,9	1,4
13	Animal Output	562	181 424	1,6	1,1	1,3
14	Total Output	1000	322 602	-0,3	0,5	2,2

Monthly Absolute Average Price for some agriculture products

Table 4: Monthly Absolute Average Prices in euro for some major agriculture products, Jul – September 2017 (2010 = 100)

Item Code	Description	Unit	2017		
			Jul	Aug	Sep
01.1.	Wheat ¹	kg	0,15	0,15	0,15
01.3.	Barley ²	kg	0,32	0,31	0,33
01.5.	Maize ³	kg	0,21	0,21	0,23
01.2.	Rye ⁴	kg	0,32	0,32	0,36
01.4.	Oats ⁵	kg	0,31	0,30	0,31
03.9.1	Hay ⁶	kg	0,15	0,15	0,16
03.9.2	Straw ⁷	kg	0,07	0,07	0,07
03.9.9.	Lucern ⁸	kg	0,17	0,17	0,18
05.1.	Potatoes ⁹	kg	0,34	0,29	0,26
04.1.9.1	Cabbage ¹⁰	kg	0,17	0,17	0,25
04.1.9.6	Onion ¹¹	kg	0,39	0,36	0,33
04.1.9.9.9	Pepper ¹²	kg	0,86	0,59	0,59
04.1.9.3	Spinach ¹³	kg	1,04	1,11	1,26
04.1.9.7	Beans ¹⁴	kg	2,61	2,69	2,86
04.1.2	Tomatoe ¹⁵	kg	0,49	0,46	0,60
04.1.9.4	Cucumber ¹⁶	kg	0,27	0,41	0,56
04.1.9.9.9.1	Watermelon ¹⁷	kg	0,19	0,19	0,20
04.1.9.9.9.2	Leek ¹⁸	kg	0,69	0,77	0,71
04.1.9.9.9.3	Garlic ¹⁹	kg	4,64	3,79	3,83
06.1.1	Apple ²⁰	kg	.	.	0,66
06.1.2	Pear ²¹	kg	.	.	1,14
06.1.3	Chestnuts ²²	kg	.	.	.
06.1.9	Walnuts ²³	kg	2,93	2,93	2,86
06.1.4.1	Grape ²⁴	kg	.	.	0,97
11.1	Cattle ²⁵	kg	2,24	2,19	2,19
11.2	Pigs ²⁶	kg	2,32	2,39	2,26
11.4	Sheep ²⁷	kg	2,46	2,49	2,44
11.5	Chickens (wilages) ²⁸	1 pieces	10,29	10,29	10,21
11.5.1	Chickens (farms) ²⁹	1 pieces	1,93	1,94	1,87
12.1	Milk ³⁰	1 lit	0,30	0,30	0,31
12.9	Honey ³¹	kg	10,29	10,29	10,29
12.2	Eggs ³²	30 pieces	1,94	2,19	2,32

1 (.) Shows that in these months we do not collect prices for these agriculture products (Cabbage, Pepper, Spinach, Tomatoes, Cucumber, Watermelon, Apple, Pear, Chestnuts, Grape)

1 - 1 Wheat – is domestic, 2 Barley, 3 Maize – Hybrid 448, 4 Rye, 5 Oats, 6 Hay produced in meadow, 7 Wheat straw (Stubble wheat), 8 Lucerne, 9 potatoes, 10 Cabbage (Hybrid 4 11 Onions- second quality, 12 Pepper- variety Sombork, 13 Spinach- variety Matador, 14 Beans- second quality, 15 Tomatoes- variety Arleta, 16 Cucumber- variety Cornishon, 17 Watermelon– is domestic product, 18 Leek, 19 Garlic, 20 Apple, 21 Pear, 22 Chesnuts, 23 Walnuts, 24Grape, 25 Live weight per 1kg for bulls and heifers aged 18-22 months domestic pedigree, 26 Live weight per 1kg for pigs aged 10-12 months domestic pedigree, 27 Live weight per 1kg for sheep domestic pedigree (white, mug) aged older than 12 months, 28 Chicken (Willage)– domestic (18 weeks old), 29 Chicken (farms)– domestic (18 weeks old) , 30 Milk –price for 1litre cow milk with 3.2% fat, 31 Honey domestic product, 32 Price for 30 pieces of eggs, first class of quality,

Figure 4: Absolute average prices for wheat and maize, January – December 2016 and third quarters 2017 (2010=100)

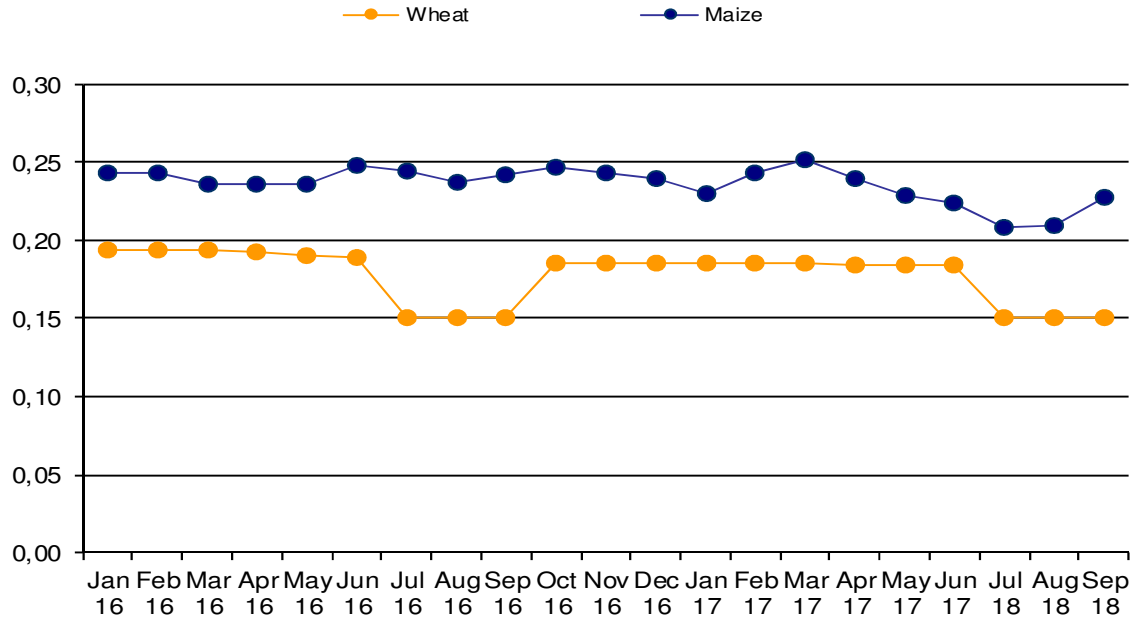


Figure 5: Absolute average prices for hay, straw and lucerne, January – December 2016 and third quarters 2017 (2010=100)

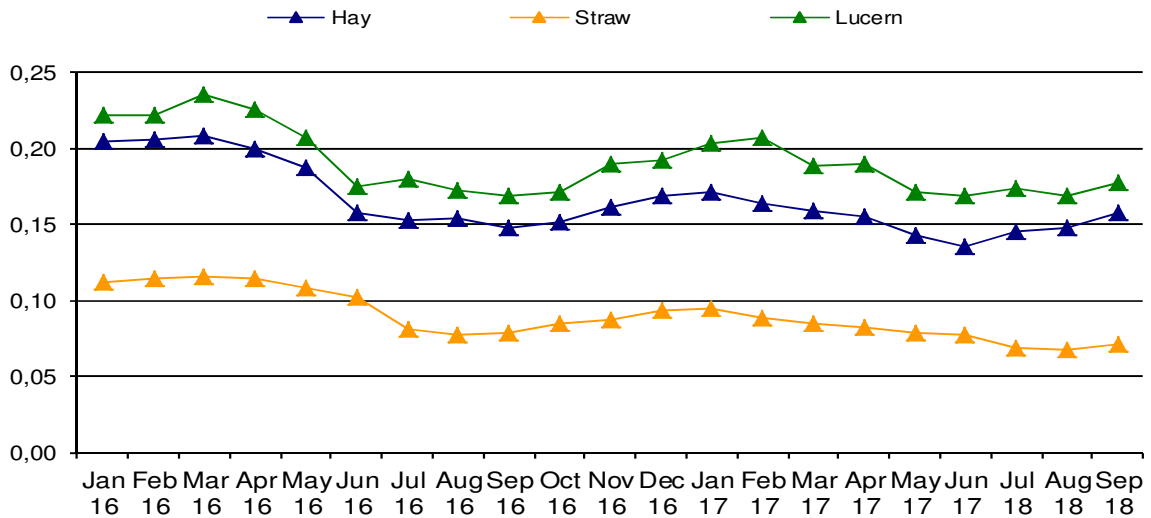


Figure 6: Absolute average prices for potatoes, tomatoes, pepper and cabbage, January – December 2016 and third quarters 2017 (2010=100)

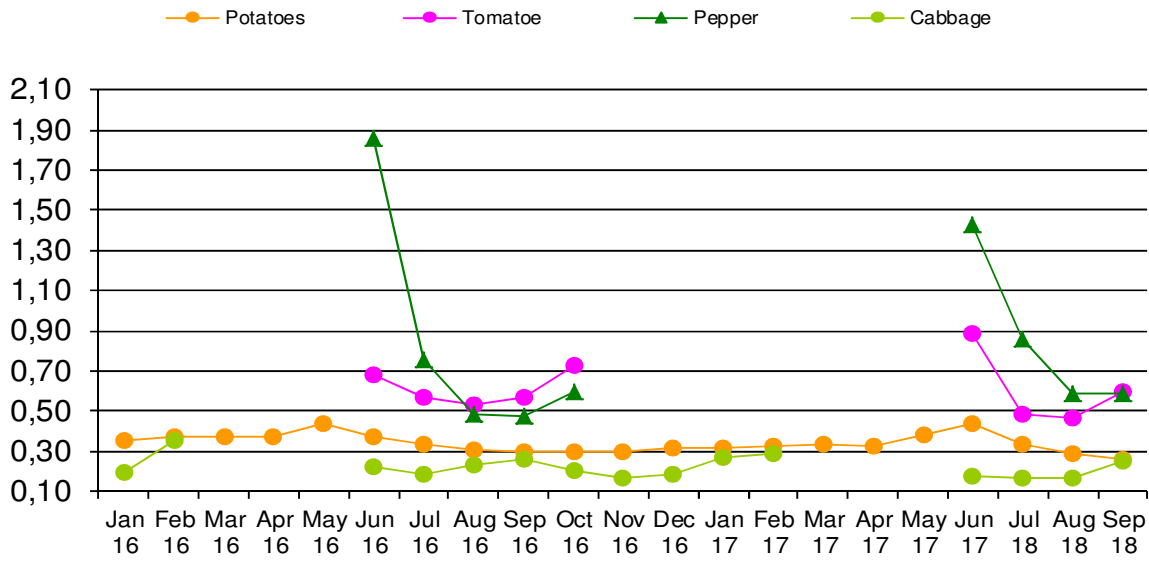
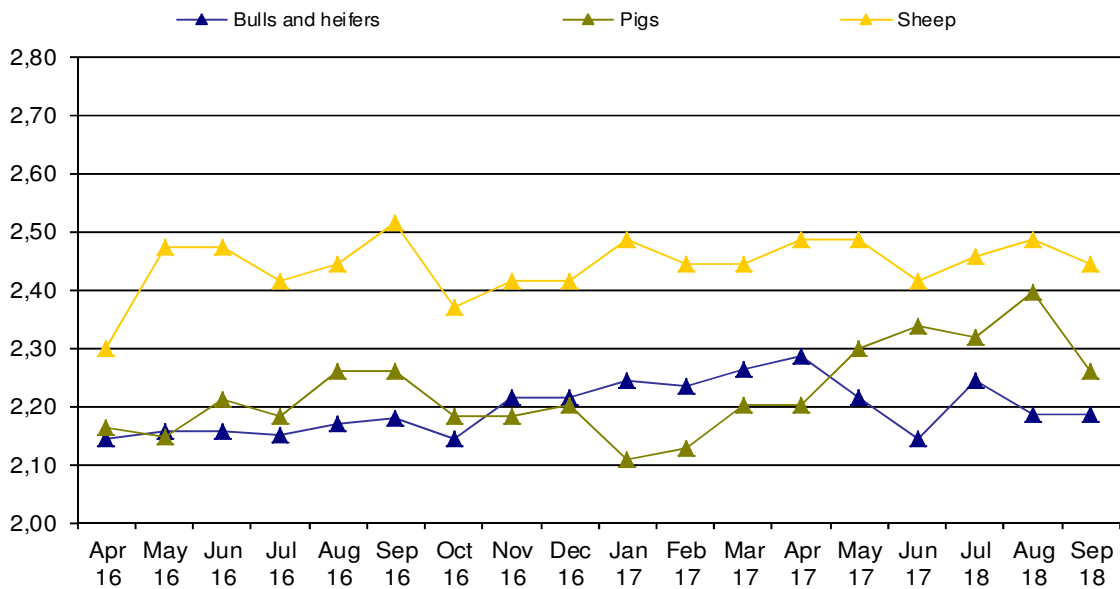


Figure 7: Absolute average prices for heifers and bulls, pigs and sheep calculated as live weight January – December 2016 and third quarters 2017 (2010=100)



Methodology

Prices and Price indices in this publication have been calculated according standards for price statistics in European Union. The project for calculating these Prices and Price Indices was conducted in the frame of the project of “Improving agro monetary statistics” in cooperation with Statistic Sweden and with financial support by Sida (Swedish International Development Cooperation Agency).

Prices are collected in seven regions: Pristina, Mitrovica, Peja, Gjakova, Prizren, Ferizaj and Gjilan. Prices are collected around the 15th in every month. Since the start the number of different prices that are collected have increased step by step. Therefore some prices are not available for the whole period. Prices are now collected for 64 products and measures prices that farmers receive for the part of their production that are sold. Weights to calculate aggregated indices are mainly based on Economic Accounts of Agriculture (EAA) from 2010, which is the base year in the indices (2010=100). It should be pointed out that the weights, in value or promille, only reflects the part of the agricultural production in Kosovo that are sold outside the agricultural household. For some products the value of the total production can be considerably higher than what is reflected in the weights.

According to EU standards, quarterly and annual indices are supposed to be calculated by each member state. The EU indices in this publication follow the methodology developed in EU. For national needs, also a monthly index is calculated. This index is calculated slightly different from the quarterly index. In short, the monthly index does not use monthly weights on aggregated level (when calculating code 10, 13 and 14). However for most crop groups (code 01, 03, 04 and 06) monthly weights are used within the group to calculate the group aggregates. On the other hand the quarterly indexes have variable quarterly weights everywhere. For this reason, the monthly and the quarterly indices might have slightly different developments if they are compared. However, the EU annual index and the Kosovo annual index are exactly the same. In both cases, the index is calculated as weighted annual index with monthly respectively quarterly weights.

The total weights, quarterly weights and monthly weights are fix during the base period. They all reflect the situation that was present in 2010. By having fix weights, the index is guaranteed only to measure price movements, which is the purpose of the index.

To compare the EU index presented in this publication with other countries, the Eurostat website is recommended <http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home>).

Calculation of elementary Price Index

Calculations of elementary indices are in general done by using following formula, with un-weighted arithmetic mean price.

$$R_i^t = \frac{\frac{1}{n} \sum P_{ij}^t}{\frac{1}{n} \sum P_{ij}^o} \cdot 100$$

R_i^t – Elementary index for month t and product i

P – Collected price

i – Product i

j – Price j recorded for product (in general price for region 1,2,...,n)

t – Observed month

0 – Base month

Calculation of aggregated Price Index

Calculating aggregated index for total Output or subgroups of Output Index is done using following formula.

$$I^t = \sum (R_i^t \cdot \frac{w_i^0}{\sum w_i^0})$$

- I^t – Aggregated index for period t
- w⁰_i – Weighting factor in base period for product i
- i – Product i
- t – Observed month
- 0 – Base month

Questionnaire

Target definition

Item number	Item name				Quantity	Unit
Price Collector				Collection place/ Company		
Date						
Price						

<p>Enumerators notes</p> <ul style="list-style-type: none"> - Detailed description of specific variety selected for re-pricing - Changes in the detailed description, date for changes - Treatment of quality change when description changed (information of over-lap Price observation, alt. valuation of quality change)
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Kosovo Agency of Statistics

short description

Kosovo Agency of Statistics is a professional institution which deals with collection, processing and publication of official statistical data. As such acts since 1948 and has passed through several historical stages, structured according to state regulation of those times.

On 2 August 1999, the Agency has resumed his professional work (after nine years of interruption of all statistical series detrimental to the interest of Kosovo), as an independent institution under the Ministry of Public Administration. Since 12.12.2011 the Agency operates in the frames of the Prime Minister's Office. Office is funded by the Kosovo Consolidated Budget, but also by donors for specific projects and for technical professional support.

Kosovo Agency of Statistics acts according to the Law No. 04/L-036 which entered into force on 12.12.2011. Programme of Official Statistics 2013/2017 is in implementation for the development of statistical system in correlation with the European Union statistics (EUROSTAT).

Kosovo Agency of Statistics has this organizational structure: production departments; (Department of Economic statistics and National Accounts, Department of Agriculture and Environment statistics and Department of Social statistics. **Support Departments**; Department of Methodology and Information Technology, Department of Policy Planning, Coordination and Communication, Department of Census and survey and Department of Administration. **Within the Agency are also established Regional Offices**; Gjakove, Gjilan, Mitrovica, Peja, Prizren, Pristina and Ferizaj

Number of employees and budget are still limited. In KAS are employed in total 143 workers, of whom 98 (68,58 %) at the headquarters of the Agency, while in the Regional Offices, 45 (31,5%). Agency's educational qualifying structure is as follows: 61,7% with university education, 15,4% with non-tertiary education, and 17.5% with secondary education.

We have professional and technical cooperation with all Ministries of the Government of Kosovo, especially with the Ministry of Economy and Finance, Central Bank of Kosovo, with international institutions, EUROSTAT, International Monetary Fund, World Bank, Sweden's SIDA, DFID, UNFPA, UNDP, UNVEF, and with the statistical institutions of the countries in the region.

Kosovo Agency of Statistics almost completely covers the territory of Kosovo, based on the statistical structure of the enumeration areas as the basic unit and sole in the country from which it gets first hand information. All surveys conducted in the field use the extension of the samples in these enumeration areas but also a statistical methodology according to international recommendations. During the collection of statistical data and reports from reporting entities are involved professionals, technicians, administrators, servants of the country offices, field enumerators from regional offices, etc.

In 2011, the project of Population Census , Households and Dwellings was successfully implemented, and in 2014 was successfully carried out the Agriculture Census. The result obtained from these censuses will have an important role in the development policies.

The mission of the Agency; to meet the needs of users with qualitative statistical data, objective, in time and space so that users have reliable base to conduct regular analysis in the interest of planning and project development at the municipal and country level. To support government institutions, scientific institutes, research academies, businesses in order to provide proper information for decision-makers and other users in Kosovo.

- **Address: KOSOVO AGENCY OF STATISTICS**
Street. "Zenel Salihu", No. 4, 10000 Pristina
- **Telephone:** +381 (0) 38 200 31 129
CEO: +381 (0) 38 200 31 112
- **Fax::** +381 (0) 38 235 033
- **E-mail:** infoask@rks-gov.net
- **Web:** <http://ask.rks-gov.net>