

2019 م





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Introduction

Council of Ministers Resolution No. 211 dated 13/1/1437 Hijri granted the General Authority for Statistics (GASTAT) the authority to conduct surveys on economic, social, residential, and agricultural issues in Saudi Arabia and to regularly publish its findings. Based on this prerogative, GASTAT established programs and census operations that seek to provide a large statistical database that covers all areas, including agricultural statistics.

Therefore, the Specialized Agricultural Projects Survey 2019 is the second survey concerning agricultural activities issued by GASTAT as part of a series of agricultural surveys implemented in parallel. GASTAT had completed its first agricultural surveys in 2018 and is aware of the importance of agricultural activities and their impact on food security.

This Survey provides fundamental data cover key characteristics of specialized agricultural projects, such as: number of farms, number and area of barns, data on production and distribution as well as agricultural production requirements for specialized agricultural projects related to farms, including (broiler, ostrich, rabbit, quail and pigeon).

GASTAT would like to thank all those who contributed to these efforts, from government partners to data providers at agricultural holdings. Their collaboration has greatly contributed to the publication of this bulletin.

For the purpose of improving the contents of this bulletin and developing future bulletins, GASTAT hopes to receive your comments and suggestions by email on agriculture@stats.gov.sa.

God is the Arbiter of Success



Data Sources for the Specialized Agricultural Projects Bulletin:

The Specialized Agricultural Projects Bulletin depends for its data on a field survey conducted by GASTAT in 2019. The survey falls under the category of "agricultural statistics". Its data are collected through a representative sample of holding visits, including (broiler chicken, ostrich, rabbit, quail and pigeon farms) spread out across all administrative regions in Saudi Arabia, in addition to an electronic questionnaire containing multiple questions. Estimates and indicators regarding production and requirements of specialized agricultural projects in Saudi Arabia are consequently obtained.

Objectives:

- 1. Supporting decision makers, policy makers, researchers, and parties interested in comprehensive and updated statistics related to the Specialized Agricultural Projects Survey (broiler chicken, ostrich, and rabbit, quail and pigeon farms) in Saudi Arabia.
- 2. Obtaining data on project production and production requirements of Specialized Agricultural Projects (broiler chicken, ostrich, rabbit, quail and pigeon farms).
- 3. Providing updated statistics on:
 - Broiler chicken farms, farm capacity, number and size of barns, and data on broiler chickens' production of eggs, such as the number of produced eggs and chicks and volume of sales.
 - Specialized ostrich farms in terms of number of ostriches and volume of meat, egg, skin and feather production.
 - Quantity and value of agricultural production requirements used on specialized broiler chicken, ostrich, rabbit, quail and pigeon farm.





Terminology and concepts:

1) Holding:

An economic unit of agricultural production, both plant and animal based, with a single source of management. It includes all the animals in the holding and all the lands used fully or partially for agricultural production regardless of ownership, legal description, or area. The holding may be run by one person alone, a household consisting of two people, two households, or more. The holding's management has a legal person similar to a company, cooperative, government agency, etc. The holding land may consist of one part or several parts that fall under the same name provided that all parts of the holding share common means of production such as laborers, machines, and agricultural equipment and that the joint means clearly demonstrate that all parts can be considered one economic unit.

2) Type of Holding: Specialized (regulated):

This type of holding includes preapproved holdings (projects) that have acquired a license from the concerned authorities after submitting technical and economic studies. These holdings may be specialized in plant based production, animal based production, poultry farming, or fish farming. They may also be projects that primarily adopt modern and non-traditional techniques for agricultural production and that specialize in open field or greenhouse cultivation, dairy farming, fattening farms for calves, sheep, or poultry, or fish farming.

3) Broiler Chicken Farms:

Farms (projects) specializing in raising chickens for meat production, where specific breeds able to turn fodder into meat are raised.

4) Ostrich Farms:

Farms (projects) specializing in producing or raising ostrich, whether for breeding, egg or meat production, or for ostrich feather and skin.

5) Rabbit Farms:

Farms (projects) specializing in raising rabbits, whether for breeding or meat production.

6) Quail Farms:





Farms (projects) specializing in hatching or raising quail, whether for breeding, or egg or meat production.

7) Pigeon Farms:

Farms (projects) specializing in raising pigeon, whether for breeding, or egg or meat production.

8) Agricultural Production:

Products made on an agricultural holding, whether plant products, such as crops, vegetables and evergreen trees, or animal products derived from raising livestock.

9) Sold:Production

Production supplied to the market by the farmer and sold for a price, which forms a part of the total production after deducting self-consumed, lost and damaged produce, including crops and plant and animal products. Endowments and produce gifted to someone other than the holder's family falls within this category.

10) Farm: Capacity

The maximum number of poultry or animals a farm can have and raise on any day in the survey year.

11) **Barns**:

The place dedicated to raise animals or poultry, which can be separate, specialized buildings.

12) Agricultural Production Requirements (Intermediate Consumption)

The commodities that the holding or specialized project has actually consumed in the year of conducting the agricultural survey in the process of agricultural production, whether these requirements were bought in the same year or taken from supplies stored in previous years.





Indicators:

The Bulletin includes many results and indicators regarding the Specialized Projects Survey (Broiler Chicken, Ostrich, Rabbit, Quail and Pigeon Farms), mainly:

Main Indicators

- 1. Number of specialized broiler farms and number, size and capacity of barns throughout the year per administrative region in the Kingdom, 2018.
- 2. Number of produced and sold chickens on specialized broiler farms per administrative region in the Kingdom, 2018.
- 3. Quantity of commodity production requirements used on specialized broiler farms per administrative region in the Kingdom, 2018.
- 4. Number of ostrich, rabbit, quail and pigeon farms on specialized farms, and number, size and capacity of barns throughout the year per administrative region in the Kingdom, 2018.
- 5. Total number of produced and sold ostriches, rabbits, quails and pigeons on specialized farms per administrative region in the Kingdom, 2018.
- 6. Total meat production on specialized ostrich, rabbit, quail and pigeon farms per administrative region in the Kingdom, 2018.
- 7. Production commodity requirements used on specialized ostrich, rabbit, quail and pigeon farms per administrative region in the Kingdom, 2018.





Coverage:

1) Spatial Coverage:

The Specialized Agricultural Projects Survey covers data related to specialized agricultural projects in all 13 administrative regions of Saudi Arabia, which are: Riyadh, Makkah, Madinah, Qassim, Eastern Region, Asir, Tabuk, Hail, Northern Borders, Jazan, Najran, Al -Baha, and Al -Jouf. All specialized broiler chicken, ostrich, rabbit, quail and pigeon farm projects are visited in each region.

2) Temporal Coverage:

The Specialized Agricultural Projects Survey data pertaining to project production and production requirements for specialized agricultural projects is dated back to 2017 (1/1/2018 till 31/12/2018, falling on 14/4/1439 till 24/4/1440 AH).

Used statistical classifications:

The Bulletin's terms and concepts are derived from the FAO World Programme for the Census of Agriculture 2020.

Data collection tools:

Field Data Collection Questionnaire: The survey form was drafted and designed by agricultural survey experts at GASTAT. International recommendations, standards, and definitions were considered during the design of these forms, which were presented to agricultural statistics experts and specialists. They were also presented to concerned entities for insight and comments. The questions were redrafted based on a specific scientific approach aimed at unifying the structure of questions asked by researchers.





Specialized Agricultural Projects (Broiler Chicken Farms) Survey Form

The form was divided into 7 thematic sections to improve the efficiency of complying with technical standards during the field work stage

Geographic and distinctive data	Profile data	Broiler chicken production of chicks throughout the year	Broiler chicken production of compost
Commodity production requirements needed for the main farm activity in the year	Other agricultural activities		Holding land uses data

Specialized Agricultural Projects (Ostrich Farms) Survey Form

The form was divided into 8 thematic sections to improve the efficiency of complying with technical standards during the field work stage

Geographic and distinctive	Profile data	Number of ostriches throughout the year	Main ostrich production throughout the year
Ostrich production of compost throughout the year	Commodity production requirements needed for the main farm activity in the year	Other agricultural activities	Holding land uses data

Specialized Agricultural Projects (Rabbit, Quail and Pigeon Farms) Survey Form

The form was divided into 8 thematic sections to improve the efficiency of complying with technical standards during the field work stage

Geographic and distinctive	Profile data	Number of rabbits, quails and pigeons throughout the year	Main production of rabbits, quails and pigeons throughout the year
Rabbit, quail and pigeon production of compost throughout the year	Commodity production requirements needed for the main farm activity in the year	Other agricultural activities	Holding land uses data

The complete form can be viewed and downloaded through the GASTAT official website:





After the survey questionnaire was approved, it was turned into electronic format that could be handled through advanced data collection systems on tablet devices. The system includes the following:

- 1) Presentation of the field researcher's work location (survey sample).
- 2) Access to the sample (agricultural holding) using the device's maps.
- 3) High-quality data collection using data and transfer accuracy checks (to automatically identify entry errors and illogical entries at the moment of data collection)
- 4) Communication between supervising entities by sending and receiving comments to and from the field researcher.

Data collection method:

The method of comprehensive inventory was used. All specialized agricultural project holdings of all kinds of projects based on the agricultural census (2015), as well as new projects developed in the agricultural surveys of 2018, were visited. Lists of all new projects in each administrative region were obtained through contacting and coordinating with agricultural directorates in the regions. (764) holdings across Saudi Arabia were visited in the following manner:

Administrative region	Number of holdings	Administrative region	Number of holdings	Administrative region	Number of holdings
Riyadh	240	Asir	100	Najran	15
Makkah	139	Tabuk	25	Al-Baha	4
Madinah	25	Hail	12	Al-Jouf	9
Qassim	63	Northern borders	4		
Eastern region	108	Jazan	20		

- Candidates for the positions of field researchers to visit specialized agricultural projects for data collection were selected based on several objective and scientific standards related to the nature of the work.
- All candidates (GASTAT employees and the employees of some government entities) were trained through special training programs.
- Direct contact with agricultural holders was adopted as a method to fill the survey form and collect data.
 The field researchers visited the specialized agricultural projects listed in the survey sample and accessed them through coordinates on the tablets, guiding maps, and the holding's profile. They were





equipped with official documents proving their identity within the statistics project and the aim of the visit. They also provided an overview of the survey and its objectives, and filled-in the forms through verbal discussions with the agricultural holders. In the cases were no holder was available, the data was collected from any member of the holding with knowledge of its affairs.

- All field researchers used tablet devices to collect the data in the survey form according to timeframes specified for navigating the survey sections.
- Field researchers at work locations across the Kingdom used the "sync" feature on the tablets to
 download and transfer the collected data on specialized agricultural projects directly to a linked
 database at GASTAT headquarters where the data was stored appropriately to be reviewed and
 consulted at a later stage.
- Electronic accuracy checks were conducted to guarantee that the data entered in the specialized agricultural projects survey form was coherent, accurate, and logical (electronic formula that identify contradictions). The formula was designed using a logical link between answers on the form and their variations to help field researchers directly identify any errors when collecting data from agricultural holders through the form. The programmed formulae don't allow any mistakes to go through when an answer contradicts with another piece of information or answer in the form.
- The authenticity of the collected data was checked by the field researcher, his inspector, and the survey supervisor for the control region. All work locations were monitored and reviewed by the Data Quality Room at GASTAT headquarters. The Room also controlled and reviewed all field work performances as the data was being collected, from day one until the last working day.

Preparation and revision of results:

After the collected data was reviewed, results were analyzed and extracted and outputs were uploaded to and stored in the database. Final reviews were then conducted by agricultural statistics specialists using modern techniques and software designed for review and accuracy checks.





Data publication:

First: Preparing results for publishing:

In this stage, GASTAT uploaded the data results to the specialized agricultural projects surveys database. It then prepared publication tables and graphics for data and indicators, and added description and methodology information as seen in this Bulletin. These were prepared in both Arabic and English.

Second: Preparing media content and announcing the Bulletin:

At the start of the Gregorian year, GASTAT announced the dates for issuing the Bulletin through its official website. At this stage, it prepared the media content related to the announcement to be sent to all media outlets and published on its own social media accounts. The announcement will be made on the date of publication and the Bulletin will be initially published on the official website in various forms compatible with Excel. This guarantees its circulation and access to all clients and parties interested in agricultural statistics. The Bulletin will be included in the website's statistics library.

Third: Communicating with clients and sending them the Bulletin:

GASTAT gives great importance to communicating with clients who use its data. Therefore, upon publication of the Specialized Agricultural Projects Bulletin, GASTAT communicates with clients to provide them with the Bulletin. It also receives questions and enquiries from clients regarding the Bulletin and its results through various communication channels, also used to request data. Enquiries are received through:

- GASTAT website: www.stats.gov.sa
- GASTAT email: info@stats.gov.sa
- Client Support email: cs@stats.gov.sa
- Visiting GASTAT headquarters in Riyadh or one of its branches in the Kingdom.
- Official letters.
- Statistical help-line: 920020081

Applied quality procedures

Agricultural statistics go through several technical procedures to guarantee the quality of the collected data. These procedures include :





- 1- Evaluating previous surveys conducted by GASTAT to identify weaknesses and strengths and to improve data collection .
- 2- Training and testing researchers to guarantee that they are able to obtain data correctly in line with the survey's objectives .
- 3- Testing electronic methods used to collect the data to guarantee that the data is safe and protected at all stages of the survey process .
- 4- Reducing the burden put on respondents by using the appropriate statistical methods.
- 5- Committing to the timely publishing of results based on previously set deadlines .

Several other measures are implemented by the Data Quality Room at GASTAT during the field data collection process.

Data Quality Room:

The Data Quality Room works in parallel to field operations and is equipped with electronic monitoring methods and screens. Its controllers and quality experts check the accuracy of the collected data and identify errors and extreme values during the field data collection process. They do so by immediately reviewing the information filled by the researcher. Their work guarantees that researchers comply with survey guidelines, and checks that the data is authentic, logical, and reliable. They also review some important survey indicators to check data accuracy. The Room has several responsibilities, including:

- Reviewing collected data and sending comments to field teams of all levels through an automatic system linked to the tablet devices used by researchers, who then receive the comments systematically at the work locations.
- Contacting holders by phone and asking them some of the questions on the form to check that the researchers collected the data correctly and complied with instructions during their visits. These calls also seek to obtain any missing data and to thank the holders for their collaboration.
- Answering field enquiries from field researchers and from agricultural holders.
- Checking the accuracy of the location of filling out the form by matching the location's coordinates to those registered in the sample file.



All government sectors whose work is linked to agricultural activities in Saudi Arabia benefit from the Specialized Agricultural Projects Bulletin. The Ministry of Environment, Water and Agriculture, the Agricultural Development Fund, and the Saudi Grains Organization are considered to be the main beneficiaries, followed by international and regional organizations, and researchers and planners interested in agricultural statistics. Specialized Agricultural Projects data and indicators are considered key statistical products for informing decision-making in this field.

More details on the methodology of the Agricultural Production can be found on GASTAT's website:

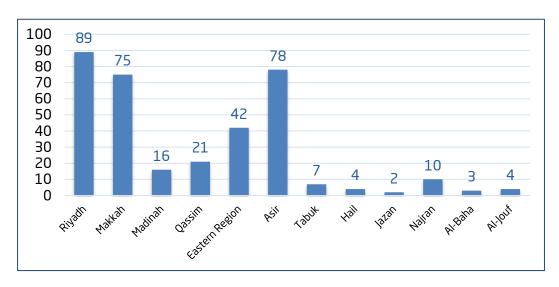
Report of key indicators:

First: specialized broiler chicken farms:

1-Number of broiler chicken farms:

The total number of specialized broiler chicken farms at the level of administrative regions in Saudi Arabia reached (351) projects. Riyadh has the highest percentage in terms of the number of broiler chicken projects, recording (89) projects with (25%). Followed by Asir Region with (78) projects with a percentage of (22%). However, Makkah came third with 75 projects, recording a percentage of (21%), out of the total number of specialized broiler projects in Saudi Arabia.







2. Number of barns and capacity of broiler chicken farms:

The total number of barns in specialized broiler chicken farms in Saudi Arabia reached (3,564) barns with an area of (12,312,860) m2. However, the total capacity of all barns of broiler farms reached (139,556,643) poultries.

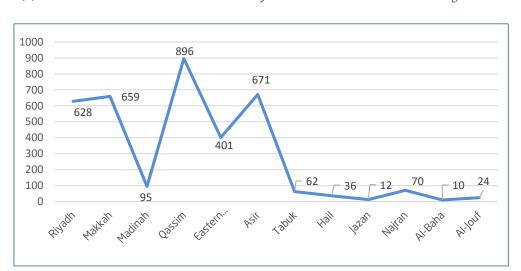


Figure (2): Distribution of barns in broiler farms by Saudi Arabia's administrative regions, 2018



3. Chicken produced in broiler chicken farms:

The total broiler chickens produced in the specialized broiler farms in Saudi Arabia reached (1,137,340) tons. Qassim Region had the highest percentage in terms of the production of broiler chickens, recording (391,767) tons, with (34%), out of total broiler chicken production in Saudi Arabia.

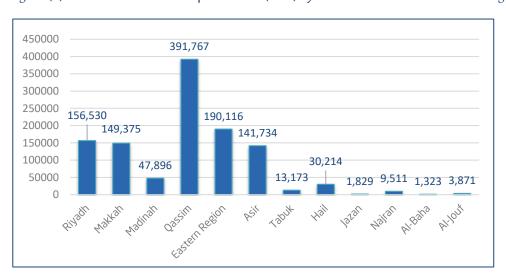


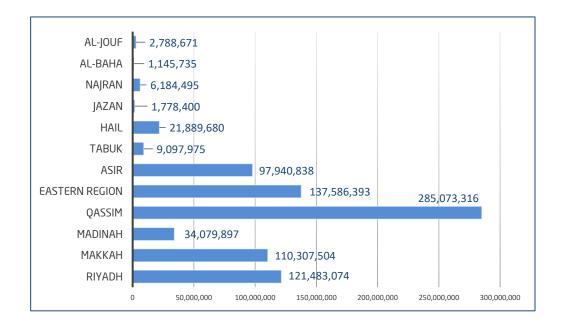
Figure (3): Distribution of broiler production (tons) by Saudi Arabia's administrative regions, 2018

4. Chicks used in production in broiler chicken farms:

The total number of chicks used in the production of specialized broiler chicken farms reached (829,355,978) chicks, at Saudi Arabia's administrative regions level.



Figure (4): Number of chicks used in broiler farms at Saudi Arabia's administrative regions level, 2018





Second: Specialized Rabbit and Poultry Farms:

1-Number of rabbit and poultry farms:

The total number of rabbit, ostrich, quail in addition to pigeon farms reached (14) farms, in Saudi Arabia. Pigeon farms accounted for (79%) of the total number of farms, which amounted to (11) farms.

2- Number of rabbit and poultry barns and their capacity:

The total number of barns of rabbits and poultry farms in Saudi Arabia reached (225) barns. Pigeon farms recorded the highest percentage in terms of barns with (52%), out of the total number of barns. However, the total capacity was (30,754) thousand poultries.

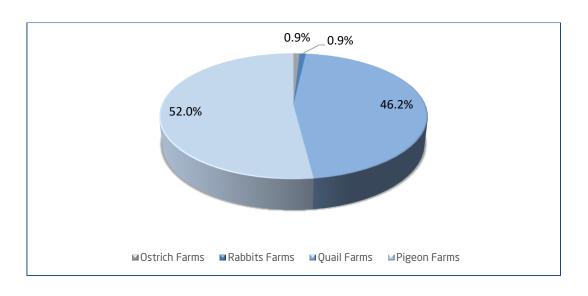


Figure (5): Percentage distribution of rabbit and poultry barns in the Kingdom, 2018

3- Total meat production of rabbit and poultry

The total number of meat production of rabbits, ostrich, quails and pigeons in Saudi Arabia reached (3,074) tons. Total meat production of quails recorded (2,565) tons, with a percentage of (83%), out of total meat production of rabbit, ostrich, quails as well as pigeons.

4- Total eggs production of poultry:





The total number of egg production of ostrich, quails and pigeons in Saudi Arabia amounted to (38,917) thousand eggs. Total egg production of quails exceeded (38) million eggs, recording (98%), out of total egg production of ostrich, quails and pigeons.

5- Total ostrich production of leather and feathers:

The total number of ostrich production of leather and feathers in Saudi Arabia amounted to (4) tons. Feather production accounted for (57%), out of total ostrich production of leather and feathers.





Publication tables:





Number of broiler chicken farms and number, size and capacity of barns at Saudi Arabia's administrative regions level 2018

Table (1)

Farm capacity (poultry)	Total area of barns m2	Number of barns	Number of farms	Administrative Regions
29,429,771	2,561,924.18	628	89	Riyadh
13,788,438	1,193,760.14	659	75	Makkah
5,281,111	377,931.51	95	16	Madinah
42,098,764	3,732,444.56	896	21	Qassim
29,870,533	2,810,711.93	401	42	Eastern Region
12,242,605	1,112,138.09	671	78	Asir
1,384,467	113,178.61	62	7	Tabuk
3,127,097	236,038.00	36	4	Hail
254,057	20,001.80	12	2	Jazan
1,388,888	106,221.75	70	10	Najran
163,676	12,797.65	10	3	Al-Baha
527,235	35,711.70	24	4	Al-Jouf
139,556,643	12,312,860	3,564	351	Total



Total number of produced and sold broiler chickens at Saudi Arabia's administrative regions level 2018

Table (2)

Chicken sold	Chicken produced		Administrative region
Quantity (ton)	Quantity (ton)	Quantity (number)	Autilitistiative region
156,510.51	156,530.05	111,669,387	Riyadh
149,302.18	149,375.30	102,518,318	Makkah
47,878.87	47,895.98	31,924,666	Madinah
391,764.00	391,766.85	261,387,600	Qassim
190,042.26	190,116.26	125,528,779	Eastern Region
141,701.72	141,734.19	94,656,842	Asir
13,171.89	13,173.10	8,959,580	Tabuk
30,140.70	30,213.70	21,293,696	Hail
1,824.16	1,829.36	1,757,600	Jazan
9,510.96	9,511.19	5,803,029	Najran
1,315.22	1,323.00	1,102,500	Al-Baha
3,871.19	3,871.19	2,562,968	Al-Jouf
1,137,033.64	1,137,340	769,164,964	Total



Quantity of chicks, manufactured feeds and sawdust used in production in broiler farms at Saudi Arabia's administrative regions level 2018

Table (3)

Sawdust	Manufactured feeds	Chicks used	· Administrative regions
Quantity (Ton)	Quantity (Ton)	Quantity (number)	Autimistrative regions
7,736,989.33	387,691.95	121,483,074	Riyadh
4,935,058.72	378,495.70	110,307,504	Makkah
1,259,081.79	131,403.36	34,079,897	Madinah
12,298,425.09	858,999.07	285,073,316	Qassim
9,160,401.43	424,669.87	137,586,393	Eastern Region
3,968,209.24	326,612.05	97,940,838	Asir
298,402.43	22,157.70	9,097,975	Tabuk
392,510.00	69,925.00	21,889,680	Hail
52,000.00	5,512.00	1,778,400	Jazan
340,382.96	18,125.71	6,184,495	Najran
51,536.47	3,458.82	1,145,735	Al-Baha
159,125.33	10,104.46	2,788,671	Al-Jouf
40,652,122.79	2,637,155.70	829,355,978	الإجمالي



Total salts, vitamins, veterinary medicines, and disinfectants used for production in broiler farms at Saudi Arabia's administrative regions level, 2018

Table (4)

Disinfectants	Veterinary medicines	Salts and Vitamins	Administrative regions
Quantity (Liter)	Quantity (Liter)	Quantity (Ton)	Administrative regions
326,763.36	43,448.32	26,416.00	Riyadh
378,093.38	137,604.42	40,313.71	Makkah
48,215.84	27,444.84	16,170.82	Madinah
700,517.05	275,248.80	954,634.74	Qassim
292,729.34	134,251.71	112,381.63	Eastern Region
214,836.83	49,807.69	55,111.16	Asir
22,797.06	112,144.59	15,195.58	Tabuk
26,267.62	20,000.00	7,284.00	Hail
4,909.75	5,824.00	52.00	Jazan
17,316.59	6,203.46	2,412.58	Najran
2,712.58	1,124.12	3,389.65	Al-Baha
5,577.34	139.23	149.18	Al-Jouf
2,040,736.74	813,241.16	1,233,511.04	Total



Number of rabbit and poultry farms and number, size and capacity of barns in the Kingdom 2018

Table (5)

Capacity (bird)	Total area of barns	Number of barns	Number of farms	Туре
6,000	10,000	2	1	Oistrich
23,000	4,200	2	1	Rabbits
30,000,000	20,280	104	1	Quail
724,800	53,756	117	11	Pigeon
30,753,800	88,236.00	225	14	Total



Total number of produced and sold rabbit and poultry by type in the Kingdom 2018

Table (6)

Total sold (Ton)	Total production (Ton)	Туре
48.00	51.20	Oistrich
32.75	33.50	Rabbits
2,462.40	2,565.00	Quail
423.54	424.40	Pigeon
2,966.69	3,074.10	Total



Total number of produced and sold poultry eggs by type in the Kingdom 2018

Table (7)

total sold (number)	Total production (number)	Туре
9,215	10,200	Oistrich
37,644,500	38,024,500	Quail
874,740	881,800	Pigeon
38,528,455	38,916,500	Total



Total number of produced and sold ostrich leather and feather in the Kingdom 2018

Table (8)

Total sold (Ton)	Total production (Ton)	Туре
1.48	1.60	Leather
2.05	2.15	feather
3.53	3.75	Total

