

Environmental Indicators (F-2)

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2. Metadata update	
2.1. Metadata last certified	July 25, 2025
2.2. Metadata last posted	July 25, 2025
2.3. Metadata last update	July 25, 2025

3. Statistical presentation	
3.1. Data description	
The data are published according to the format of the United Nations Economic Commission for Europe (UNECE) environmental indicators (F-2). F-2 (Fertilizer consumption) The indicator includes mineral and organic fertilizers used by agricultural holdings for their agricultural activities. Expressed as a total quantity of fertilizers consumption, also consumption of fertilizers per hectare of agricultural area and share of area treated with fertilizers in total agricultural area.	
3.2. Classification system	
Use of each type of fertilizer// World Programme for the Census of Agriculture 2020. Volume 1: Programme, Concepts and Definitions / Food and Agriculture Organization of the United Nations. – Rome, 2017, pp. 85-86. http://www.fao.org/3/a-i4913e.pdf	
3.3. Sector coverage	
Agricultural holdings: family holdings and agricultural enterprises.	
3.4. Statistical concepts and definitions	
Consumption of mineral fertilizers – nitrogen, phosphorus, potash, nitrogen-phosphorus, phosphorus-potash, nitrogen-potash, nitrogen-phosphorus-potash fertilizers used by agricultural holdings for their agricultural activities. Consumption of organic fertilizers – manure used by agricultural holdings for their agricultural activities.	
3.5. Statistical unit	
Agricultural holding – economic unit of agricultural production under single management comprising all livestock kept and all land used wholly or partly for agricultural production purposes, without regard to title, legal form or size in which agricultural activities are conducted by the supervision of a holder, who is responsible for making decisions and takes all economic risks and expenses related to agricultural activities.	
3.6. Statistical population	
Survey sampling frame includes about 642 thousand agriculture holdings (households and agricultural enterprises) operated in country. The Agricultural Census 2014 is the main source of the sample frame. Sampling frame is updated on a permanent basis in according to the results of survey of agricultural holdings, business register and different administrative sources.	
3.7. Reference area	
Entire country, excluding occupied regions.	
3.8. Time coverage	
Since 2006.	
3.9. Base period	
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4. Unit of measure	
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1000 tons, kg/hectare, million hectares.

5. Reference period

Year.

6. Institutional mandate

6.1. Legal acts and other agreements

The Law of Georgia on Official Statistics;
<https://www.geostat.ge/media/56202/The-Law-of-Georgia-on-Official-Statistics.pdf>
Statistical Work Programme (annual);
<https://www.geostat.ge/en/modules/categories/307/statistical-work-programme>
Charter of the National Statistics Office of Georgia.
<https://www.geostat.ge/media/67749/New-Chapter-eng-upd.pdf>

6.2. Data sharing

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7. Confidentiality

7.1. Confidentiality – policy

1. The Law of Georgia on Official Statistics:
 - According to the article 5 of the law Statistical confidentiality and exclusive use for statistical purposes – individual data collected or received by the producer of official statistics, relating to natural or legal persons, must be strictly confidential and used only for statistical purposes.
 - According to the article 34 (Observing Confidentiality of Statistical Data) of the law 1. Data collected, processed, and stored to produce official statistics are confidential if they enable the direct or indirect identification of a statistical unit. In addition, aggregated data are subject to statistical confidentiality: a) Aggregates composed of 1 to 3 units, when the unit is a natural or legal person if one of these units could be identified indirectly, thereby disclosing individual data about this unit. Aggregates composed of more than 3 units may be declared confidential by the Executive Director if required to ensure statistical confidentiality; b) Information declares as a state secret on the basis of the „Law of Georgia on State Secrets“. 2. Confidential data shall be used exclusively for the purposes of producing statistics in accordance with this law. 3. Statistical data about the administrative body cannot be considered confidential information, except for the information determined by the Law of Georgia „On State Secrets“. 4. Individual data obtained from publicly available sources, which are defined as public information in accordance with the legislation of Georgia, shall not be considered confidential information. 5. Confidential (individual) data may be published if there is written consent from the statistical unit regarding the publication of such data. 6. It is not allowed to disseminate and distribute confidential data or use it for non-statistical purposes.
 - According to the article 38 (Confidentiality commitments) of the law the confidential statistical data collected and processed for statistical purposes shall not be used or disseminated either for personal, academic, research or any other activities, by the employees of the producers of Official Statistics.
<https://www.geostat.ge/media/56202/The-Law-of-Georgia-on-Official-Statistics.pdf>
2. Data Confidentiality Policy at Geostat
https://www.geostat.ge/media/20860/Data-Confidentiality-Policy-at-Geostat_En.pdf
3. Procedure for providing access to confidential data for research purposes
<https://www.geostat.ge/media/61533/Rule-on-Access-to-Confidential-Data-for-Scientific-and-Research-Purposes....pdf>
4. The Law of Georgia on Personal Data Protection
<https://matsne.gov.ge/en/document/view/1561437?publication=9>

7.2. Confidentiality – data treatment

- Confidentiality guidelines.
- Written undertakings by an employee of Geostat on ensuring confidentiality of gained/collected data as a result of official duties.

8. Release policy

8.1. Release calendar

Data dissemination dates are defined by the calendar developed on the basis of the Statistical Work Programme, which is published on the website of Geostat and is publicly available.
8.2. Release calendar access
https://www.geostat.ge/en/calendar
8.3. User access
All users have the equal access to the statistical data simultaneously.
9. Frequency of dissemination
Annual.
10. Accessibility and clarity
10.1. News release
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10.2. Publications
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10.3. On-line database
The data is available on the Geostat website as a spreadsheet: https://www.geostat.ge/en/modules/categories/565/environmental-indicators Also in the PC-Axis database: https://pc-axis.geostat.ge/PXweb/pxweb/en/Database/Database_Environment%20Statistics_Environmental%20Indicators/05.F_2.px?rxid=126f8d54-c1af-4272-be55-ee566ed3d217
10.4. Micro-data access
Anonymised microdata: https://www.geostat.ge/en/modules/categories/686/agriculture-holdings-surveys
10.5. Other
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10.6. Documentation on methodology
Guidelines for the Application of Environmental Indicators https://unece.org/DAM/env/europe/monitoring/Indicators/F-2-en-final.pdf https://unece.org/DAM/env/europe/monitoring/Indicators/F-2-glos-en-final.pdf „A System of Integrated Agricultural Censuses and Surveys. V.1-Guidelines for the World Programme of Agriculture Censuses“. FAO Statistical Development Series, No. 11. Food and Agriculture Organization of the United Nations. Rome, 2005. https://www.geostat.ge/media/13404/WCA2010.pdf „World Programme for the Census of Agriculture 2020. V.1-Programme, concepts and definitions“. FAO Statistical Development Series, No. 15. Food and Agriculture Organization of the United Nations. Rome, 2017. https://www.geostat.ge/media/19735/World-Programme-for-the-Census-of-Agriculture-2020.pdf
10.7. Quality documentation
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11. Quality management
11.1. Quality assurance
To ensure the quality of the statistical processes and products Geostat follows Chapter 10 – Quality of official statistics – of the Law of Georgia on Official Statistics, as well as the European Statistics Code of Practice, the UN Fundamental Principles of Official Statistics and Quality Assurance Framework of the European Statistical System (ESS QAF).
11.2. Quality assessment
Methodology and Quality Management Division of Geostat, along with the sectoral departments, is responsible for the quality of the produced statistical products and processes. The Division carries out quality audit, self-assessment of statistical processes and assesses the risks for the quality of statistical processes and products. Geostat has developed policy documents, guidelines and standard routine descriptions. These documents ensure the standardization of statistical processes and products and the establishment of a unified quality assurance system. Quality policy is available on the following link: https://www.geostat.ge/media/44380/QP_Geostat_EN.pdf

12. Relevance
12.1. User needs
The main users of the data are: government institutions, business sector, non-governmental organizations, international organizations, experts, media, compilers of the Energy Environmental Accounting System (SEEA), energy policy makers and others. They need these data to conduct various statistical analyzes. Energy policy makers use energy statistics to plan strategies, develop environmental policies, and for monitoring. Representatives of the business sector - to assess and analyze new investment opportunities.
12.2. User satisfaction
In 2023 user satisfaction survey was conducted, the target of the survey was to analyze the assessment of quality of statistical data by users and explore ways to improve user services. The survey report is available on the website of Geostat: https://www.geostat.ge/en/page/customer-service
12.3. Completeness
The data are comparable to international standards.
13. Accuracy and reliability
13.1. Overall accuracy
Data accuracy is ensured by comparability of survey and calculation methods to international methodology.
13.2. Sampling error
Sampling error of main indicators do not exceed 5% for a country level and 10% for a regional level.
13.3. Non-sampling error
Non-sampling error examples during The Survey of Agricultural Holdings are: errors made during a data collection by an interviewer, non-response, under coverage and over coverage, errors during an imputation and data processing.
14. Timeliness and punctuality
14.1. Timeliness
Data are disseminated in the second half of July after the reference year.
14.2. Punctuality
The data is published according to the date specified in the statistical work program. There has not been any violation of publication dates.
15. Coherence and comparability
15.1. Comparability – geographical
The same methodological approaches are used for all regions of Georgia and they are comparable to international standards.
15.2. Comparability – over time
Data are comparable.
15.3. Coherence – cross domain
Data are coherent.
15.4. Coherence – internal
Data are coherent.
16. Cost and burden
The data are processed based on internal resources, so no additional expenses are incurred.
17. Data revision
17.1. Data revision – policy
Statistical data revision policy is available on the website of Geostat: https://www.geostat.ge/media/59824/Data-Revision-Policy-and-Error-Correction-at-Geostat_Eng.pdf
17.2. Data revision – practice
The statistical data revisions and adjustments are made on a regular basis rely on relevant sources. In addition, a large-

scale revision is performed once a year to obtain verified data. Main purpose of this procedures to obtain statistically valid data.
18. Statistical processing
18.1. Source data
Primary data obtained from Survey of Agricultural Holdings.
18.2. Frequency of data collection
Annual.
18.3. Data collection
From 2006 to 2017 data for the Survey of Agriculture Holdings were collected using paper-based questionnaires, while since 2018 data are collected tablet-based computer-assisted personal interviewing (CAPI) methods. In case of agricultural enterprises data are collected via online questionnaires (CASI-Computer Assisted Self-interviewing).
18.4. Data validation
The primary logical controls are made by algorithms implemented in android based tablets, which notifies an interviewer on logical errors or mismatching of obtained information. Questionnaires filled by interviewers are sent to field work supervisors in order to retrieve and check data errors or arithmetical mistakes. If such cases will be occurred, field supervisors send the questionnaires back to interviewers for farther correction or adjustment. The final data cleaning and harmonization are made by staff of Agriculture and Environment Statistics department of GEOSTAT. During this process the dubious data and outliers are retrieved, checked and adjusted. For the data validation strongly used comparison of obtained data to previous time series on a micro data level or other valid sources. In case of significant outliers, the main reason of it should be detected and analyzed.
18.5. Data compilation
Calculation formula for each indicators: consumption of fertilizers per hectare of agricultural area = Total quantity of fertilizers consumption / Agricultural land area. Share of area treated with fertilizers in total area = Area treated with fertilizers / Agricultural land area.
18.6. Adjustment
Not applicable.
19. Comment
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