



# **Pesticide sales (aei\_fm\_salpest09)**

## **AEI\_ESQRS\_A\_LU\_2019\_0000**

National Reference Metadata in ESS Standard for Quality

Reports Structure (ESQRS)

Compiling agency: Service d'Economie Rurale (SER)

Time Dimension: 2019-A0

Data Provider: LU1

Data Flow: AEI\_ESQRS\_A

### **Eurostat metadata**

#### **Reference metadata**

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For any question on data and metadata, please contact: [EUROPEAN STATISTICAL DATA SUPPORT](#) [Download](#)

## **1. Contact**

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<b>1.1. Contact organisation</b>	Service d'Economie Rurale (SER)
<b>1.2. Contact organisation unit</b>	Division of agricultural statistics, agricultural markets and external relations
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<b>2. Statistical presentation</b>	<a href="#">Top</a>
See sub-concepts below.	
<b>2.1. Data description</b>	
See sub-concepts below.	
<b>2.1.1. Main characteristics of statistics</b>	
The data set comprises the annual sales of active substances contained in plant protection products placed on the national market for one calendar year according to the <a href="#">Regulation (EC) No 1185/2009</a> as amended by <a href="#">Commission Regulation (EU) 2017/269</a> of 16 February 2017 as regards the list of active substances.	
<b>2.1.2. National legislation</b>	
Yes	
<b>2.1.2.1. Name of national legislation</b>	
National regulation of 26 September 2017 concerning the sale, use and storage of plant protection products.	
<b>2.1.2.2. Link to national legislation</b>	
<a href="https://legilux.public.lu/eli/etat/leg/rgd/2017/09/26/a864/jo">https://legilux.public.lu/eli/etat/leg/rgd/2017/09/26/a864/jo</a> (only available in French)	
<b>2.1.2.3. Responsible organisation for national legislation</b>	
Agricultural Technical Services Administration (ASTA)	
<b>2.1.2.4. Year of entry into force of national legislation</b>	
2017	
<b>2.1.2.5. Coverage of variables required under EU regulation</b>	
All variables required under EU regulation on Pesticide Sales Statistics are covered by this regulation.	
<b>2.1.2.6. Divergence national definitions from EU regulation</b>	
None.	
<b>2.1.2.7. Legal obligation for respondents</b>	
Yes	
<b>2.1.3. Unit of measure</b>	
The data are expressed in kilograms of active substances.	
<b>2.2. Classification system</b>	
The classification of the active substances in plant protection products is annexed (Annex III) to <a href="#">Commission Regulation (EU) 2017/269</a> of 16 February 2017 amending <a href="#">Regulation (EC) No 1185/2009</a> of the European Parliament and of the Council concerning statistics on pesticides.	
The active substances are classified according to chemical and functional similarity. Aggregation levels in descending order comprise: major groups, categories of products, chemical classes and active substances.	
<b>2.3. Coverage - sector</b>	
The statistics cover active substances in plant protection products placed on the market. In Luxembourg, we do not consider authorisation holders of plant protection products but enterprises placing pesticides on the market. These are mainly wholesalers, retailers and, to a minor extend, florists and agricultural cooperatives.	
<b>2.4. Statistical concepts and definitions</b>	
This data collection comprises pesticide sales data based on the term 'placing on the market' as defined in <a href="#">Regulation (EC) No 1107/2009</a> of the European Parliament and of the Council of 21 October 2009 concerning the placing of plant protection products on the market. The scope of the Regulation covers plant protection products and their active substances as can be seen from the key terms of the act immediately below:	

**Plant protection products:** products consisting of or containing active substances, safeners or synergists, and intended for one of the following uses:

- **protecting** plants or plant products against all harmful organisms or preventing the action of such organisms, unless the main purpose of these products is considered to be for reasons of hygiene rather than for the protection of plants or plant products;
- **influencing** the life processes of plants, such as substances influencing their growth, other than as a nutrient;
- **preserving** plant products, in so far as such substances or products are not subject to special Community provisions on preservatives;
- **destroying** undesired plants or parts of plants, except algae unless the products are applied on soil or water to protect plants;
- **checking** or preventing undesired growth of plants, except algae.

**Active substances:** substances or micro-organisms, including viruses, having general or specific action against harmful organisms or on plants, parts of plants or plant products.

**Quantity:** implies kilograms of the active substances sold.

[Regulation \(EC\) No 1185/2009](#) of the European Parliament and of the Council establishes a common framework for the systematic production of Community statistics on the placing on the market and agricultural use of those pesticides which are plant protection products as defined in Article 2 (a)(i). The statistics shall apply to the annual amounts of pesticides active substances placed on the market in accordance with Annex I and the quantity of active substances shall be aggregated according to the list in Annex III (as amended).

## 2.5. Statistical unit

Enterprise authorised to place plant protection products on the market.

## 2.6. Statistical population

The target population consists of authorised enterprises of a register in accordance with the national regulation of 26 September 2017 concerning the sale, use and storage of plant protection products.

## 2.7. Reference area

See sub-concepts below.

### 2.7.1. Geographical area covered

The entire territory of Luxembourg.

### 2.7.2. Inclusion of special territories

Not applicable.

## 2.8. Coverage - Time

2011-2019

## 2.9. Base period

Not applicable for pesticide sales statistics, because it is not based on an index number of time series.

# 3. Statistical processing

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See sub-concepts below.

## 3.1. Source data

See sub-concepts below.
<b>3.1.1. Type of source data</b>
Administrative data
<b>3.1.2. Specification of type of source data</b>
Not applicable.
<b>3.1.3. Main characteristics of source data</b>
The national reporting obligation has existed since 2017: any individuals who trade with plant protection products must report, no later than 3 months after the end of the reference period, their sales to any final user to the Agricultural Technical Services Administration and indicate where the products are both stored and sold. More particularly, they must provide the name of the product, the sold quantity as well as the authorisation identifier. The national law also mentions that these data are used for statistical purposes. Sellers who do not report in time receive several reminders. Data from a few small sellers are missing every year due to nonresponse.
<b>3.2. Frequency of data collection</b>
Annually.
<b>3.3. Data collection</b>
Since the reference year 2017, Luxembourg uses administrative register data for the production of pesticides sales statistics. Please refer to section 3.1. The SER receives a standard reporting form for each enterprise from ASTA.
<b>3.4. Data validation</b>
<p>Non-responding firms receive several reminders.</p> <p>The data collected from responding firms undergo several validation steps. We distinguish between manual and automatic data checking:</p> <p>a) Manual checking:</p> <p>The first step consists in checking each collected reporting form for completeness (historical data comparison). In case that item non-response is suspected, the reporting enterprises are recontacted. If necessary, they are asked to resend the amended questionnaire.</p> <p>Formats adaptations are also done in order to facilitate further automatic processing.</p> <p>b) Automatic checking:</p> <p>Once the questionnaires have been cleaned up, they are processed. Remaining minor inconsistencies are then adjusted automatically. These are for example spelling mistakes in a product name or in an agreement number that are needed for the conversion to the Eurostat codes. Furthermore, there are some sellers that indicate products which do not need to be indicated.</p>
<b>3.5. Data compilation</b>
<p>a) Data Editing:</p> <p>At this stage of the statistical process, possible out-of-scope products are excluded.</p> <p>The unit non-response is addressed by reweighting procedures by strata of economic activities</p> <p>b) Compilation of final results:</p> <p>Once the data have been validated and treated for unit non-response, they are linked to the correspondence table containing the composing substances for each product.</p> <p>All the quantities of substances are converted into 'kg'. Then, the data are aggregated such as stipulated by the Regulation (EC) 1185/2009.</p> <p>In addition, the total quantities sold are compared for each active substance to the prior year figures. Major deviations in this table are manually checked for plausibility and, if needed, we contact the relevant enterprise for further</p>

explanations.

### 3.6. Adjustment

Not applicable for pesticide sales statistics, because the data collection is not based on time series.

## 4. Quality management

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See sub-concepts below.

### 4.1. Quality assurance

Data quality is managed at the different stages of the statistical production process:

1. Design of the reporting form
2. Update of the list of authorised products and their contents
3. Update of the target population
4. Data collection and reminder procedures
5. Raw data validation
6. Validation of results
7. Statistical disclosure control.

Since reference year 2017, the steps 1) to 4) are under the responsibility of ASTA, even though the SER proceeds with the following quality checks:

- The SER receives the register micro-data and the complete list of authorized products from ASTA. Both sets are checked by the SER. The product list received from ASTA is compared with prior year list: new products and changes in the contents are discussed with ASTA. Any errors are corrected by the SER.
- The target population of the current year is cross-checked with the prior year population. Possible deviations are discussed with ASTA. Register data received from ASTA are enriched with internal information for stratification and estimation purposes.

Furthermore, the statistical outputs of pesticides sold are compared with the quantity of pesticides used in agriculture.

### 4.2. Quality management - assessment

The overall data quality is satisfactory. There might be some under-coverage due to the sales of non-resident companies on the domestic market. These sales cannot be estimated.

There might also be some over-coverage: this would be the case when the reporting companies declare their sales comprising the exports to sellers abroad even though they are explicitly advised not to do so. We assume this over-coverage to be minor.

## 5. Relevance

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See sub-concepts below.

### 5.1. Relevance - User Needs

Besides EU institutions, pesticides sales statistics might be of an interest for policy makers (Ministry of Agriculture, Ministry of Environment, and Ministry of Health), environmental lobby groups and the research community. In addition, statistics on pesticides are becoming more and more important in the elaboration of the Common Agricultural Policy (CAP).

### 5.2. Relevance - User Satisfaction

No user satisfaction or other consultations are realised. User satisfaction might be limited as a lot of substances are flagged as confidential.

### 5.3. Completeness

The data collection covers all active substances of plant protection products placed on the national market and the information of all authorisation holders.

#### **5.3.1. Data completeness - rate**

100%

## **6. Accuracy and reliability**

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See sub-concepts below.

### **6.1. Accuracy - overall**

Some active substance quantities might be overstated for data series 2011-2013 since the questionnaire back then did not allow for distinguishing between sales to the final user and sales to contractor or retail trader abroad. When pesticides (PPP) are sold to non-resident companies, they should be considered as exports, and thus should not be recorded in Luxembourg.

Please also refer to section 4.2.

### **6.2. Sampling error**

Not applicable for pesticide sales statistics, because the data collection is not based on samples, but covers the whole statistical population of authorisation holders and plant protection products placed on the national market.

#### **6.2.1. Sampling error - indicators**

Not applicable for pesticide sales statistics, because the data collection is not based on samples, but covers the whole statistical population of authorisation holders and plant protection products placed on the national market.

### **6.3. Non-sampling error**

Not applicable.

#### **6.3.1. Coverage error**

The ASTA and the SER both check the completeness of the population.

##### **6.3.1.1. Over-coverage - rate**

There was no difference between the frame and the target population.

##### **6.3.1.2. Common units - proportion**

Not applicable for pesticide sales statistics as the data stem from one source.

#### **6.3.2. Measurement error**

Year to year checks reveal whether measurement units (liter, kg) have been used in an accurate and consistent way and whether there are changes in the type or the quantity of products supplied.

The products which are declared by enterprises but for which no correspondence with the list in Annex III of the Regulation (EC) 1185/2009 on pesticides can be found, are omitted from the final results.

#### **6.3.3. Non response error**

Six out of 34 distributors did not report to the national authorities. Data for those six distributors have been estimated for the considered reference period. Among these, some of them might not place any protection plant products on the market. Since these enterprises have a very small impact, we assume the non-response error to be minor.

##### **6.3.3.1. Unit non-response - rate**

The unit non-response rate amounts to about 18%. However, the non-response units are mainly very small contributors.

##### **6.3.3.2. Item non-response - rate**

We assume the item non-response rate to be negligible since year to year checks on the product level help us to keep this rate low.
<b>6.3.4. Processing error</b>
Data are checked thoroughly at the different production process levels.
<b>6.3.4.1. Imputation - rate</b>
Unit non-response is addressed by reweighting procedures.
<b>6.3.5. Model assumption error</b>
Not applicable for pesticide sales statistics, because the data collection is not based on estimations.
<b>6.4. Seasonal adjustment</b>
Not applicable for pesticide sales statistics, because the reported data on plant protection products covers the whole year.
<b>6.5. Data revision - policy</b>
Not applicable.
<b>6.6. Data revision - practice</b>
Not applicable.
<b>6.6.1. Data revision - average size</b>
Not applicable.

<b>7. Timeliness and punctuality</b> <a href="#">Top</a>
See sub-concepts below.
<b>7.1. Timeliness</b>
According to the <a href="#">Regulation (EC) No 1185/2009</a> , the data is published by Eurostat 15 months after the end of the reference year and the national quality report 20 months after the end of the reference year.
<b>7.1.1. Time lag - first result</b>
Not applicable for pesticide sales statistics as the data and national quality reports are only published once in a final result.
<b>7.1.2. Time lag - final result</b>
15 months after the end of the reference period for the data; 20 months after the end of the reference period for the national quality report.
<b>7.2. Punctuality</b>
According to the <a href="#">Regulation (EC) No 1185/2009</a> , data must be transmitted until 30 December of the year t+1, and national quality reports until 31 March of the year t+2.
<b>7.2.1. Punctuality - delivery and publication</b>
There was a delay of four months in the data delivery.
<b>7.2.2. Data release according to schedule</b>
No
<b>7.2.3. Metadata release according to schedule</b>
No
<b>7.2.4. Reasons for delays</b>

In Luxembourg, the reference year of 2019 was a transition year. The responsibility was transmitted from the STATEC (National Statistic Institute(NSI)) to the SER. The transfer of knowledge took more time than expected. The statistical disclosure control was mainly responsible for the delay. After this transition year, data will be delivered in time in the years to come.

## 8. Coherence and comparability

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See sub-concepts below.

### 8.1. Comparability - geographical

Data are collected on a country level (NUTS 0). They are not comparable on a regional level. The geographical comparability between countries is evaluated by Eurostat.

#### 8.1.1. Asymmetry for mirror flow statistics - coefficient

Not applicable, because there are no mirror flows in pesticide sales statistics.

### 8.2. Comparability - over time

Active substances for data before 2016 have not been reclassified for Luxembourg - there is a break in time series in 2016. Therefore the pesticide sales statistics for Luxembourg is comparable from 2011 to 2015 and from 2016 onwards.

#### 8.2.1. Length of comparable time series

4

### 8.3. Coherence - cross domain

Not applicable

### 8.4. Coherence - sub annual and annual statistics

Not applicable for pesticide sales statistics, because the data collection is annual.

### 8.5. Coherence - National Accounts

Not applicable, because it is not related to national accounts.

### 8.6. Coherence - internal

Not applicable

## 9. Accessibility and clarity

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See sub-concepts below.

### 9.1. Dissemination format - News release

Not available

### 9.2. Dissemination format - Publications

Not available.

### 9.3. Dissemination format - online database

Not available.

#### 9.3.1. Data tables - consultations

Not applicable.

### 9.4. Dissemination format - microdata access

Microdata (with confidential flags) can be obtained by everybody upon request via email: [Statistiques@ser.etat.lu](mailto:Statistiques@ser.etat.lu)

### 9.5. Dissemination format - other



The link to the Eurostat database is published on the homepage of the Ministry of Agriculture in Luxembourg (only available in German):

<https://agriculture.public.lu/de/agrarstatistik/landwirtschaft-umwelt/vente-pp.html>

#### 9.6. Documentation on methodology

Not available.

#### 9.7. Quality management - documentation

Not available.

##### 9.7.1. Metadata completeness - rate

Not requested.

##### 9.7.2. Metadata - consultations

Not requested.

## 10. Cost and Burden

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Cost and burden for the SER were not calculated.

Since enterprises have a legal obligation to report to the national authority, we do not consider the cost as a statistical burden on them.

## 11. Confidentiality

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See sub-concepts below.

### 11.1. Confidentiality - policy

Confidentiality policy is regulated by the article 16 of the law of 10 July 2011 on the organisation of the National Institute for Statistics and Economic Studies (<https://statistiques.public.lu/fr/acteurs/statec/missions/nouvloistatec.pdf>) - Only available in French)

Art. 16. STATEC guarantees the non-disclosure of confidential information when the statistical results are disseminated, except for foreign trade statistics. Regarding the latter, the detailed data that allows a resident exporter or importer to be indirectly identified is only kept confidential if the concerned economic operator sends a request for this to STATEC.

The data used to produce the statistics is deemed confidential when it allows an individual or legal entity to be directly or indirectly identified or comprises a risk of disclosure of individual information. To determine whether an individual or legal entity is identifiable, account shall be taken of all relevant means that might reasonably be used by a third party to identify such individual or legal entity. However, data which is taken from sources accessible to the public and which remains accessible according to legislation is not considered confidential. The same applies when express authorisation from the provider of statistical information is given.

When the fulfilment of its remit or the statistical aims sought require the use of data from identifiable statistical units, this data is processed by respecting the fundamental rights and liberties of the concerned individuals or legal entities. Only the people responsible for drawing up these statistics have access to this data. As soon as the identification of the statistical units and in particular of individuals is no longer necessary in the statistical production process, the data will be made anonymous.

Information that can be individualised cannot, under any circumstances, be disclosed.

The civil servants and those persons responsible for collecting the information or cooperating with the statistical work are personally responsible for strictly complying with the provisions above; Article 458 of the Criminal Code is applicable to them, without prejudice to any disciplinary sanctions.

The provisions of this article apply by analogy to other organisations that form part of the national statistical system.

The SER also underlies this regulation.

## 11.2. Confidentiality - data treatment

### Technical considerations

The basis for any suppression pattern (addressing both primary and secondary confidentiality) is the software package tau-Argus. However, the process also involves manual procedures, i.e. checking the tau-Argus output, comparing the historical data series and addressing linked table disclosure risks (if any).

### Primary confidentiality rules

#### a) Sensitivity rule

We apply the (n,k)-dominance rule, i.e. a cell is suppressed if n units separately or jointly dominate the total value of a cell by at least k%. Dominance is measured in terms of quantities sold (kg).

#### b) Minimum frequency rule

For any cells that are left after applying the sensitivity rule, a minimum frequency is applied. A cell is suppressed if there are less than n units in a given cell.

### Secondary confidentiality rules

The secondary suppression is calculated by tau-Argus using the ‘Modular’ algorithm. Manual suppressions or cost adjustments are performed using the tau-Argus ‘a priori’ file facility.

#### a) Secondary suppression within a table

- A cell is suppressed for secondary confidentiality if n units dominate jointly or separately the confidential total value by at least k%;
- special attention is paid to the impact of singletons, a risk which is in most cases directly addressed by the tau-Argus Modular algorithm;
- tau-Argus is set to minimise the cost when determining the secondary suppressed cells.

However, we also want to provide the user with useful data, whether it is in terms of interpretation and/or availability of time series. Consequently, the cost minimisation algorithm results can be overridden for domain-specific or historical reasons.

#### b) Secondary suppression due to linked tables disclosure risks

- historical disclosure: in conformity with the Statistical Disclosure (SDC) handbook, we ensure that no historical cell is compromised by disclosing the same cell for the current reference year. As long as there is any significant link with prior year data, a cell may not be disclosed for the current reference year.

## 12. Comment

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None.

## Related metadata

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## Annexes

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