Luke
NATURAL RESOURCES
INSTITUTE FINLAND

# Farmland management and irrigation

## Quality Report

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Quality Report

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# 1 Contact

## 1.1 Contact organisation

Natural Resources Institute Finland

## 1.2 Contact organisation unit

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# 2 Metadata update

## 2.1 Metadata last certified

30.6.2022

## 2.2 Metadata last posted

30.6.2022

## 2.3 Metadata last update

30.6.2022

# 3 Statistical presentation

## 3.1 Data description

The statistics contain information on soil cover in winter and primary tillage of fields of agricultural and horticultural enterprises, continuous cultivation of the same crop species, spreading of cattle manure, field and horticultural area available for irrigation and area irrigated, used irrigation methods, and the origin of water used for irrigation.

## 3.2 Classification system

The area classification of the preliminary statistics is the whole of Finland. Final information is published by region and by legal form and production sectors of agricultural and horticultural enterprises.

## 3.3 Sector coverage

Data on farmland management and irrigation is collected in the Farm Structure Survey every 3 to 4 years. The Farm Structure Survey of 2020 was a census study (agricultural census) for all agricultural and horticultural enterprises in Finland but data on farmland management and irrigation was collected only from 27% of farms.

## 3.4 Statistical concepts and definitions

**Area available for irrigation** includes the cultivated area, to which irrigation devices can be transported or can be used on (water for irrigation is available, and the use of irrigation devices is technically possible). Area may be available for irrigation even though it has never been irrigated. The normal level of water available for irrigation is the volume of water that is available for irrigation in most years.

The origin of water used for irrigation

1. Surface water from the farm: Water is taken from i.e., a pond, irrigation reservoir, or a dam reservoir. The origin of the water could be either rainwater or ground water. If ground water is collected into an irrigation or dam reservoir only during the sprinkler irrigation season, the origin of water is marked as ground water.

2. Surface water from a waterway that extends beyond the farm: Water is taken from a lake, river, etc. which lies partly or fully outside the farm.

3. Ground water from the farm: Water is taken from i.e., a well or spring on or near the farm, and the water is used for irrigation directly or transported into an irrigation reservoir.

**Agricultural and horticultural enterprises** are farms practising agricultural or horticultural production, with a financial size of over 2000 EUR, using the Standard Output Method. This definition was taken into use in statistics regarding data from 2013.

Before the year 2013 the definition of a farm was a farm with at least a hectare of usable farmland, or at least one livestock unit of livestock. Before the year 2020 the definition off an active farm was a farm with at least a hectare of fields of gardens and with agricultural production or other business activities.

**Standard output SO** is the average income as Euros per hectare received for agricultural products, or Euros per livestock by farm prices. Prices used in calculating Standard Output are five-year averages. SO does not take subsidies into account, because in agricultural politics of the EU subsidies are separate from production. Thus, subsidies per product cannot be calculated. Standard output can be used to calculate the financial size of an agricultural or horticultural enterprise. More information on Standard Output can be found on the Eurostat website: Glossary:Standard output (SO) - Statistics Explained (europa.eu)

**Production sector** is defined after the commercially most significant product of the agricultural or horticultural enterprise. Data is calculated by using the Standard Output method. If over 2/3 of the total production of the farm comprises of one product, the farm is classified as the corresponding production

sector. If such product does not exist, the production sector is classified as mixed production. The standard output method was taken into use in results from 2013. Prior to this, the farmer declared their production sector in the application for subsidies.

## 3.5 Statistical unit

The statistical unit is an agricultural or horticultural enterprise.

## 3.6 Statistical population

The statistical population contains all active agricultural and horticultural enterprises with production. Active agricultural or horticultural enterprises are farms or enterprises with a financial size of over EUR 2000. The financial size is calculated by using the Standard Output method. This definition was taken into use in statistics regarding data from 2013.

## 3.7 Reference area

Preliminary information is published for the whole of Finland. Final information is published additionally by ELY-Centres and production sectors.

## 3.8 Time coverage

Farm Structure Surveys in Finland have been conducted in 1995, 1997, 2000, 2003, 2005, 2007, 2010, 2013, 2016, and 2020.

## 3.9 Base period

2010

# 4 Unit of measure

The units of measure used in the statistics are: hectare (ha), and a portion of an area (%).

# 5 Reference period

Harvest year 2019–2020 or year 2020.

# 6 Institutional mandate

The duties of the Natural Resources Institute Finland have been defined in the Act on the Natural Resources Institute Finland (561/2014) and the Act on the Food and Natural Resources Statistics (562/2014). The Act on the Food and Natural Resources Statistics defines the duties of the Natural Resources Institute Finland to be compiling and publishing statistics regarding:

1) the structure, production methods, and input in production of agriculture; the production of crops, horticulture, and livestock; the environmental effects of production, and the prices of agricultural products,

2) commercial utilisation of forests, activity of the wood market, conservation and maintenance of forests,

3) fishing, aquaculture, fisheries, the market of fisheries, and

4) the safety of food products.

The act gives the Natural Resources Institute Finland extensive permissions to collect information on agriculture, horticulture, aquaculture, processing and trade of agricultural and aquacultural products, forestry, and the processing and trade of wood.

The Statistics Act (The Statistics Act 280/2004, 361/2013) legislates on, including but not limited to, data collection, data processing, and duty of disclosure. In addition to the Statistics Act, the Personal Data Act and the Act on the Openness of Government Activities are applied when processing data for compiling statistics.

The main document guiding our actions is the perennial European statistical programme, approved by the European Parliament and the Council of Europe, based on which the commission produces an annual work programme. The statistics included in the European Statistical Programme are prescribed in the Council Regulation 322/97.

The Statistical Office of the European Union, Eurostat, and the statistical offices of EU countries must apply the EU's Statistics Act when compiling statistics following the work programme.

As a supranational regulation, it surpasses the national Statistics Act but in practice there are no contradictions between the Statistics Acts of the EU and Finland.

### 6.1 Legal acts and other agreements

The statistics are compiled based on the Act on the Natural Resources Institute Finland (561/2014), the Act on Food and Natural Resource Statistics (562/2014), the Statistics Act (280/2004), and the Regulation of the European Parliament and the Council of the European Union concerning crop statistics (1166/2008).

### 6.2 Data sharing

The statistics are published on the Natural Resources Institute Finland website. A webpage, announcements, news, and blogs regarding the statistics can be found on the website of the Natural Resources Institute Finland. Tables relating to the statistics are available on the statistics database of the Natural Resources Institute Finland.

The results of the agricultural census are provided to Eurostat by the end of March 2022. Eurostat publishes data from all its member countries online.

## 7 Confidentiality

### 7.1 Confidentiality - policy

Confidentiality is a base principle of statistics and assures the confidential processing of data provided by informants, and the Natural Resources Institute Finland has undertaken to follow this principle. Micro-data is confidential and must never be released for administrative decision-making, investigation, surveillance, legal proceedings, or similar purposes.

### 7.2 Confidentiality - data treatment

The confidentiality of data collected for statistical purposes is guaranteed according to the Statistics Act (280/2004), the Personal Data Act (523/1999), the Act on the Openness of Government Activities (621/1999), and the EU General Data Protection Regulation (2016/679). Data is protected at all stages of processing using the necessary physical and

technological solutions. The staff only has access to information necessary for their duties. Unauthorised people do not have access to spaces in which micro-data is processed. Staff members have signed a non-disclosure agreement when entering duty. Intentional breach of confidentiality will be penalised.

# 8 Release policy

The disseminations of the Natural Resources Institute Finland are published online on weekdays at 9:00. Data is public after it has been published on the website.

## 8.1 Release calendar

The publication dates are confirmed in autumn together with the action plans. The release calendar of the following year is published for users in the end of the year. The release calendar holds data on the dates of future publications. The publication dates are published in the calendar at first with an accuracy of one week, and two months prior to the publication date with an accuracy of a day. The calendar also contains direct links to already published statistical publication.

## 8.2 Release calendar access

Statistical releases calendar | Natural Resources Institute Finland

# 9 Frequency of disseminations

The Farm Structure Survey is conducted every 3 to 4 years. Data on farm management and irrigation is not always included in the Farm Structure Survey.

# 10 Dissemination format

## 10.1 News release

Statistics are published every 3–4 years according to a date declared in the release calendar.

## 10.2 Publications

The statistical office of the European Union, Eurostat, and the Food and Agriculture Organization of the United Nations, FAO, publish data from the statistics on their websites.

## 10.3 On-line database

PxWeb - Farmland management and irrigation

## 10.4 Other

-

## 10.5 Documentation of methodology

-

## 10.6 Quality documentation

-

# 11 Quality management

## 11.1 Quality assurance

The Natural Resources Institute Finland follows the Code of Practice and the Quality Assurance Framework of European statistics when compiling statistics. The Code of Practice concern the independence and accountability of statistics authorities, and the quality of processes and published data. The principles are compatible with and supplement the Principles of Official Statistics, agreed upon by the United Nations Statistical Commission. The quality criteria of official statistics in Finland are also compatible with the Code of Practice of European statistics. The principles are also compatible with the European Foundation for Quality Management.

The annual quality assurance of statistics performed by Statistics Finland includes statistics produced by the Natural Resources Institute Finland.

## 11.2 Quality assessment

The quality is assessed in the data processing stage.

# 12 Relevance

## 12.1 User needs

-

## 12.2 User satisfaction

Feedback is collected from the users of the statistics, especially when revising the statistics. Feedback is also received directly. In addition, we investigated the wishes of users for developing the statistics in the autumn of 2021 and beginning of 2022, when updating the work programme for the Natural Resources Institute Finland. We follow the received feedback and take it into consideration in developing the statistics.

## 12.3 Completeness

-

# 13 Accuracy and reliability

## 13.1 Overall accuracy and reliability

The response rate of the Farm Structure Survey (agricultural census) was 88%. The response rate of the so-called extensive survey, used as the subsample of the agricultural census, was 87%. The data is very reliable due to a large sample size and a high response rate.

## 13.2 Sampling error

-

## 13.3 Non-sampling error

### 13.3.1 Coverage error

The register of agricultural and horticultural enterprises is revised yearly, and farms that have stopped production are removed from the register. Because of this there is no significant over-coverage in the statistics.

### 13.3.2 Measurement error

-

#### 13.3.3 Non-response error

Questions on farmland management and irrigation were a part of the extensive survey of the agricultural census, which was a subsample of the survey. The response rate of the extensive survey was 87%, meaning that 13% of agricultural and horticultural enterprises did not respond to the survey.

#### 13.3.4 Processing error

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#### 13.3.5 Model-based error

-

## 14 Timeliness and punctuality

### 14.1 Timeliness

Preliminary information on the statistics is published the year after the statistical year, and final information is published later.

### 14.2 Punctuality

The statistics have been published according to the publishing date declared in advance.

## 15 Coherence and comparability

### 15.1 Comparability - geographical

The statistics are comparable with data from all EEA countries, for which data has been collected using farm structure surveys.

### 15.2 Comparability - over time

The results are mostly comparable with each other, if questions on farmland management and irrigation have been included in the Farm Structure Survey.

### 15.3 Coherence - cross domain

The statistics are coherent with other statistics on agricultural and horticultural enterprises.

#### 15.3.1 Coherence between sub annual and annual statistics

-

### 15.3.2 Coherence with National Accounts

-

## 15.4 Coherence – internal

-

# 16 Cost and burden

Funding for the statistics is provided from Luke's assets. Eurostat covers part of the expenses. We try to reduce the burden by using data from registers.

# 17 Statistical processing

## 17.1 Source data

-

## 17.2 Frequency of data collection

The Farm Structure Survey is conducted every 3 to 4 years. Data on farmland management and irrigation is not collected each time.

## 17.3 Data collection

Data on farmland management and irrigation of agricultural and horticultural enterprises is collected in the data collection of the Farm Structure Survey. Once every ten years the Farm Structure Survey is conducted as a census study (agricultural census). The more recent agricultural census in Finland was conducted in 2010.

Data collection includes farms included in the register of agricultural and horticultural enterprises. Data is collected online or with phone interviews. In 2016 the number of agricultural and horticultural enterprises in Finland was approximately 49,700. The sample of the Farm Structure Survey included approximately 15,800 of these farms.

Data from farms that did not respond is imputed by using mean imputation.

Source data is also collected from the register of field plots.

## 17.4 Data validation

If for example an abnormally large observation is spotted during the data compilation process, the authenticity of data is reviewed.

## 17.5 Data compilation

Data collected with the sample survey is estimated using the normal multiplying factor of stratified sampling. Faulty or abnormal data from the sample survey is either revised or removed from the material. The data for missing responses is restratified.

## 17.6 Seasonal adjustment

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# 18 Comment

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