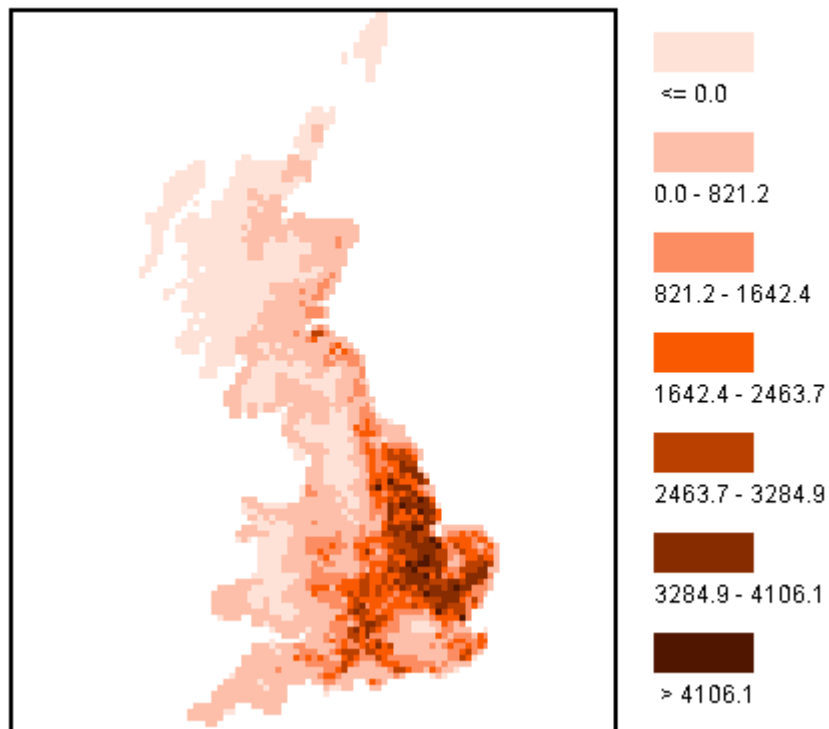


agcensus

Grid square agricultural census data for England, Scotland and Wales

TRAINING GUIDE

Map showing "Wheat" in GB, 1988.
For area x:-165695-850972 and y:0-1220000.



About EDINA agcensus

The EDINA agcensus service provides online access to grid-square Agricultural census data. The grid square estimates of agricultural production are available in ASCII delimited format at various resolutions from as far back as 1969 for England, Scotland, and Wales. Users can visualise or download data for use in other software packages, such as Geographical Information Systems (GIS), spreadsheets, such as Excel, or statistical analysis packages.

Background

The Agricultural Census is conducted in June each year by the government departments dealing with Agriculture and Rural Affairs for Scotland, England, and Wales (i.e. SEERAD, DEFRA and the Welsh Assembly Government Department for Environment, Planning and Countryside). Each farmer declares the agricultural activity on the land via a postal questionnaire. The respective government departments collect the 150 items of data and publish information relating to farm holdings for recognised geographies.

Conversion of Agricultural Census Data

Edinburgh University Data Library has developed algorithms which convert the data for recognised geographies, obtained from the government departments, into grid square estimates. The key to transforming the raw data into grid square data is the definition of each geography (e.g. parish, in the case of Scotland) in terms of 1km squares. This Framework is used in conjunction with a 7-fold classification of the land-use of the same 1km grid squares, the Landuse Framework. Agricultural Census items are distributed over those 1km grid squares with the land use category suitable for the census item in question.

Why Convert to grid square data?

The input data is converted to grid square estimates for a number of reasons, namely:

- the format of data obtained from the government departments is potentially disclosive
- the geographies (e.g. Scottish parishes, Welsh communities) vary in size and shape, the land use capabilities also vary across these geographies
- farmers may under- or over-report agriculture activity e.g. by combining small holdings to produce one return or farm may be on the boundary of 2 geographies
- livestock may be elsewhere
- the census returns are a 'snapshot' of activity on 1 June.
(for further information see:
<http://datalib.ed.ac.uk/EUDL/agriculture/agcen2.pdf>).
- Grid square data containing British National Grid easting and northing co-ordinates also facilitates analysis within desktop GIS such as ArcGIS, MapInfo.

To register to use EDINA agcensus

EDINA services are normally available 24 hours a day, 7 days a week. Any planned service breaks will be announced via the EDINA web site.

Academic access to EDINA services is via the ATHENS registration and authentication system. Before you can use EDINA agcensus you must acquire an ATHENS account (*a temporary account will be provided today to attendees without an ATHENS username*): contact your library or computing services for details.

Basics of the Guide

Participants using the guide should be familiar with using windows-type software, a pointing device (such as a mouse) and have experience in using a Web browser.

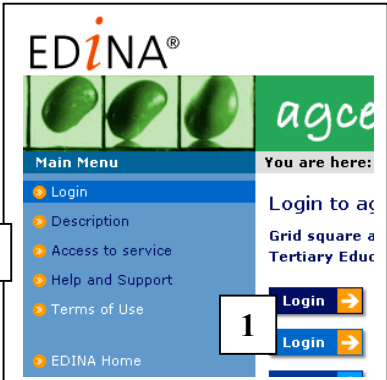
Getting started

Access to EDINA agcensus

To use the EDINA agcensus service you need a web browser that supports tables and forms.

- Point your browser to: **http://edina.ed.ac.uk**
- Select EDINA agcensus from the menu at the top right of the page

The opening screen is the **standard login page**. This will allow you to login to the service. See below for a description of the main parts of the screen



The screenshot shows the EDINA agcensus login page. At the top left is the EDINA logo. Below it is a navigation menu with items: Login, Description, Access to service, Help and Support, Terms of Use, and EDINA Home. To the right of the menu is a 'You are here:' breadcrumb trail. At the bottom right, there are two 'Login' buttons. Numbered callouts are: 1 points to the 'Login' buttons; 2 points to the top right navigation area; 3 points to the breadcrumb trail; 4 points to the main menu.

2

Login buttons

2 EDINA navigation buttons

3 Links to external sources

4 Service information including Help and Support, and Terms of Use.

To login to EDINA agcensus

- Select Login for academic users
- Enter your username and password
- Click the Login button
- Read and click on the 'I agree to the terms of use' to download or map agricultural census data.

1

The screenshot shows the EDINA agcensus Home Page. At the top right, there is a navigation menu with links for 'Quick Link', 'Download', and 'Map' (labeled 1). Below this, a secondary navigation bar contains 'Home', 'Start Again', 'Help', 'FAQ', 'Stats', 'Contact', and 'Log Out'. The main content area is titled 'Home Page' and features three small images of agricultural products. A welcome message states that data from the Agricultural Censuses provide realistic estimates of:

- What was produced.
- How much was produced.
- Where it was produced.

 It also notes that data can be downloaded for a GB territory for a particular year and can be mapped. To the right, a section titled 'Do you wish to download or map some agricultural census data?' offers three options: 'Download' (labeled 3), 'Map' (labeled 4), and 'Scottish Summaries 1912-1978' (labeled 5). At the bottom left, there is a footer with links for 'About agcensus', 'Terms of Use', 'Accessibility', 'Feedback', and 'Copyright' (labeled 2). A secondary footer at the very bottom repeats the navigation links.

Once you have logged into the service you will be presented with the **agcensus Home Page**. See below for a description of the main parts of the screen

- 1 The navigation menu contains options to download or map data, start again, log out, help or contact EDINA. Some options are repeated at the bottom left of the screen.
- 2 Service information contains accessibility and copyright statement, terms of use as well a feedback facility.
- 3 **Download** allows you to download ASCII delimited census data for a chosen area and chosen year.
- 4 The **Map** icon allows you to visualise a chosen census item for a chosen area and chosen year.
- 5 **Scottish Summaries** allows you to download agricultural census statistics for Scotland from 1912-1978 as Adobe PDF files

To download grid square agricultural census data select the blue **Download button**. There then follows a 7 step procedure, namely:

1. Select the country you are interested from the list – press **Continue**
2. Select the year you are interested in from the list - press **Continue**
3. Select items you want from each census group and then click **Add Item(s)+** button to add them to your list – press **Continue**

Tip – Hold down the Ctrl key to select multiple items

4. Select the grid size for the data you want to add from the list – press **Continue**
5. Select area of interest. This can be achieved by entering the easting and northing British national grid co-ordinates of the area of interest in the boxes provided. Click on **Update** when your 6 or 7 figure co-ordinates have been entered. Alternatively you can use the **Map Controls** to zoom into an area of interest (see below for a description of this screen) – press **Continue**

The screenshot shows the EDINA agcensus web interface. At the top, there is a navigation bar with 'Quick Link » Download | Map' and a secondary bar with 'Home | Start Again | Help | FAQ | Stats | Contact | Log Out'. Below this, a breadcrumb trail reads 'Country » Year(s) » Census Items » Grid Size » Extent » Summary » Download'. The main content area is titled 'Download: Step 5 of 7'. On the left, there are instructions for selecting an area of interest, followed by input fields for 'South-West Corner' (Easting: 000000, Northing: 530000) and 'North-East Corner' (Easting: 575000, Northing: 1220000). An 'Update' button is below these fields. A 'Continue' button is also present. Below the form fields, there is a section for 'Area Mode' with a 'Select' button. On the right, a 'You have selected:' summary shows: Country: Scotland, Year: 1994, Census Items: 29, Grid Size: 2k, Extent: -. The central part of the screen is a map window showing a map of Scotland with a grid overlay. A 'Map window' callout points to this area. Below the map are 'Map Controls' including arrows for navigation and a grid icon. At the bottom, there are 'Back' and 'Continue' buttons. Callout boxes A-F are placed around the interface to highlight specific elements.

- A** Select area of interest by entering easting and northing co-ordinates of area of interest. Click on **Update** to view map of chosen area.

- B** Map Controls include navigation arrows, zoom in/out tools in addition to a grid overlay (indicating the resolution of grid data chosen), a pan tool which allows you to pan to an area of interest on the map.



The Select Area Mode button allows you to drag a box over the area of interest. The map window automatically adjust to the area of interest. The green country icon to the right of this button resets the map to the original country boundaries.

When happy with your selection press **Continue**.

- C** The **Show Land Use** allows you to view the land use categories of the map shown in the map window.

- D** The **Show Map** tab to returns you to the map of the area chosen.

- E** The **Back** button allows you to go back to a previous step.

- F** The **Continue** button allows you to proceed to the next step.

6. Confirm a summary of your selection – go **Back** to re-select your preferences or press **Download** once you are happy with your choices.

7. After clicking **Download** you will get the following message “It may take some time to compile the data requested for download. Please be patient.” After a few moments select the **Download Data** option to download ASCII delimited data.

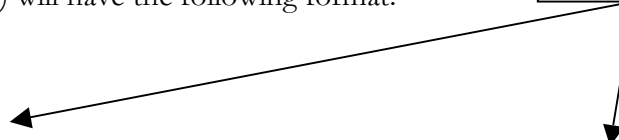


You will then be prompted to open the data file or **Save to Disk** as Comma Separated Values suitable for importation into a spreadsheet or GIS package.

Note: The 'Save' dialogue box may vary depending on which **browser** is used.

The data file (opened in Excel) will have the following format:

Census item(s)
chosen



	A	B	C	D	E	F	G	H	I	J	K
1	x	y	Dairy Cattl	Beef Cattle	Dairy Cattl	Beef Cattle	First time	First time	First time	First time	Bulls for
2	174000	628000	0	28.5	0	3.3	0	3.3	0	1.8	
3	176000	628000	0	9.5	0	1.1	0	1.1	0	0.6	
4	178000	628000	38.8	9.5	3.7	1.1	7.5	1.1	2.2	0.6	0
5	180000	628000	8.3	11.6	2.1	4.7	2.1	0.7	0.2	0.1	1
6	180000	628000	12.4	15.4	3.2	6.3	3.1	1	0.3	0.1	1
7	192000	628000	0	7.7	0	3.2	0	0.5	0	0.1	
8	194000	628000	0	11.6	0	4.7	0	0	0	0.1	
9	196000	628000	0	15.4	0	6.3	0	1	0	0.1	
10	198000	628000	0	10.2	0	3.6	0	0.6	0	0.1	
11	174000	630000	0	9.5	0	1.1	0	1.1	0	0.6	
12	176000	630000	0	9.5	0	1.1	0	1.1	0	0.6	

Easting and northing British national grid co-ordinates

Grid square estimated value for census item

Note:

1. Information about the units of analysis for each census item is available from the FAQ or as a link when you are prompted to **Download Data**.
2. PDF **Questionnaires**, which provides a fuller description of each question (i.e. census item) are downloadable for each census year and for each territory from the Help pages or at Step 3. of the data download process.

Data Download Tasks

Task 1a.

- Download to the desktop of your PC all the cattle items for the country of Scotland for the year 2001 at 5km level of aggregation?

Tip: To choose the whole country either click on Continue without making an area selection or drag the Select Area Mode box over the whole country.

- Right Click with the mouse and click on **Properties**. What size is the file?
- If the file does not default to Excel then open the file in Excel.

Task 1b.

- Download to the desktop of your PC all the sheep items for the following British National Grid co-ordinates in Scotland for the year 1994 at 2km level of aggregation:
 - South–West corner Easting: 108152
 - South–West corner Northing: 796484
 - North-East corner Easting: 177431
 - North-East corner Northing: 879621

Tip: remember to click **Update**

- Where is this?
- Go back and download to your desktop of your PC all the sheep items for the same area for the year 1994 at 2km level of aggregation. This time use the Select Area Mode button and draw a bounding rectangle around the area of interest.

Task 2.

- Download to the desktop of your PC the following census items for England & Wales for the year 1969:
 - Total cattle & calves (hint: census group:ctla)
 - Other cattle & calves – Male ≥ 2 yrs (hint: census group ctlb)
 - Potatoes (early)(hint: crops & fallow a)
 - Potatoes (main)
 - Hay
 - Total sheep & lambs

Tip: Remember to click **Add item(s)+** for each item selected from each census group.

To visualise grid square agricultural census data select the blue **Map button**

Tip: Click on **Start Again** or **Map** from the top right hand menu options to return to the blue **Map button** on the EDINA agcensus Home Page

Follow steps 1 to 5 as shown above with **Data Download** i.e.:

1. Select country of interest
2. Select year of interest
3. Select item of interest


Note: You can only visualise one census item at a time

4. Select grid size
5. Select area of interest
6. Confirm a summary of your selection – go **Back** to re-select your preferences or press **Visualise** once you are happy with your choices

[Country](#) » [Year\(s\)](#) » [Census Item](#)

You have selected:

Country :	Scotland
Year :	2001
Census Items :	Dairy cows and heifers
Grid size :	2k
Extent :	Min X: 000000 Min Y: 530000 Max X: 575000 Max Y: 1220000

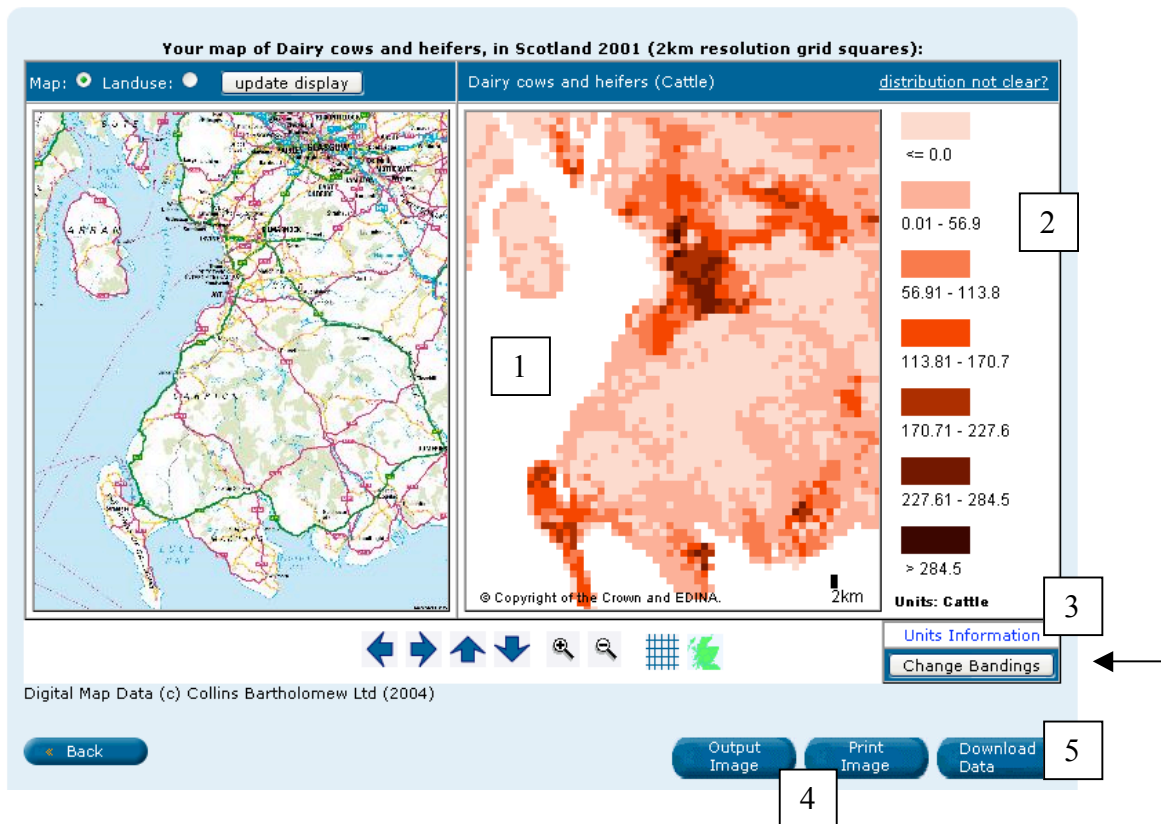
[← Back](#) [Visualise](#) 

[Accessibility](#) | [Feedback](#) | [Copyright](#)

- After clicking Visualise wait a few moments and a map of your chosen area will appear beside the spatial distribution of the chosen census item for that area (see below for a description of the screen).

View Map

1: Country » 2: Year(s) » 3: Census Item » 4: Grid Size » 5: Extent » Summary » M



1 Spatial distribution map of census item chosen (in this case Dairy cows and heifers, in Scotland for census year 2001 at 2km resolution)

2 Distribution bandings

Tip: When comparing the same census item from different years remember to compare 'like with like' i.e. ensure that the same distribution bandings are used. This can be achieved by clicking on the **Change Bandings** button.

3 **Units Information** provides the units of analysis for the grid square estimated item chosen (e.g. barley – hectares, sheep – individuals)

4 The **Output Image** and **Print Image** buttons allows you to either save your map as a GIF image (for inclusion in a digital document for example) or to print off a hard copy of the distribution map.

5 The **Download Data** button allows you to download the data for the chosen census item as ASCII delimited comma separated values.

Data Visualisation Tasks

Task 3.

- Visualise census item 'Peas for processing' for the census year 2001 at 2km resolution for the following British National Grid co-ordinates in Scotland:
 - South–West corner Easting: 275710
 - South–West corner Northing: 650750
 - North-East corner Easting: 392308
 - North-East corner Northing: 790667

Tip: Remember to click on **Update**

- Visualise same census item for the same year for the same area at 10km resolution. Note the difference in granularity.
- Find out which other unlikely area of Scotland grows 'Peas for processing'?

Task 4.

- Visualise census item 'Wheat' for the census year 1969 at 5k resolution for East Anglia (British National Grid co-ordinates:
 - South–West corner Easting: 550214
 - South–West corner Northing: 213793
 - North-East corner Easting: 679406
 - North-East corner Northing: 368823)

Tip: Choose country England & Wales

Note: Before 1998 DEFRA (and previously MAFF) conducted the census for both England and Wales.

- Either print the map (by clicking on the **Print Image** button) or save the map (by clicking on the **Output Image** and then right clicking the mouse to save the map to your PC) as a GIF image.
- Now visualise the same census item for the census year 1994 at 5km resolution.

Note that the 1994 distribution bandings are different from the map of the same area for 1969.

- Change the distribution bandings by clicking on the **Change Bandings** button and entering the relevant bands so that 1969 is the same as 1994 (i.e. you are comparing 'like with like'.)
- Either print the 1994 map (by clicking on the **Print Image** button) or save the map (by clicking on the **Output Image** and then right clicking the mouse to save the map to your PC) as a GIF image.
- Now compare both maps to get an impression of the change in wheat production in East Anglia between 1969 and 1994.