



## UK Farm Animal Genetic Resources (FAnGR) Breed Inventory Numbers of pedigree farm animals 2017

This release announces the number of pedigree farm animals in the UK in 2017 and estimates of the breeding female livestock populations for 2018. The full dataset is presented in a timeseries at [www.gov.uk/government/collections/farm-animal-genetic-resources](http://www.gov.uk/government/collections/farm-animal-genetic-resources) (click on "Annual Statistics") for cattle, sheep, pigs, goats, horses and camelids.

**Key results for Cattle:** Data were collected in 2017 from 27 out of the 38 native cattle breeds.

Of the responses, the greatest percentage increase in estimates of the female population is attributed to the Vaynol breed (up 50% from 2017, with a 2018 prediction of 12 individuals). Notable percentage increases in female population are also present for Whitebred Shorthorn (up 28% on 2017). The 7% increase on the female population for belted Galloway breed indicates that female populations have risen above the 3,000 individuals threshold for being considered a "Breed At Risk".

Of the responses, the greatest percentage decrease in female population estimates between 2017 and 2018 are in the Highland and South Devon cow breeds. This data shows that Highland cows remain only just above the threshold for being considered a "Breed At Risk", at 3,043 estimated female individuals. A breed that has fallen below the threshold this year is the Galloway, with a decrease of 11% on 2016.

**Key results for Sheep:** Data were collected in 2017 from 43 out of the 59 native sheep breeds.

Of the responses, the steepest positive trends for female population are observed for the Llanewenog breed (up 17% on 2017), Castlemilk Moorit (up 17% on 2017) and the Hill Radnor breed (up 15% on 2017).

Of the responses, the steepest negative trends for female population estimates between 2017 and 2018 predictions are for the Norfolk Horn, Lonk, Bluefaced Leicester, and Soay sheep breeds, with predicted percentage decreases of 8%, 7%, 7% and 6% respectively on 2017 estimates.

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**An Official Statistics publication.** These statistics are produced to the high professional standards set out in the Code of Practice for Official Statistics, which sets out eight principles including meeting user needs, impartiality and objectivity, integrity, sound methods and assured quality, frankness and accessibility. See <http://www.statisticsauthority.gov.uk/national-statistician/types-of-official-statistics/index.html> for further details on Official Statistics.

**Key results for Pigs:** Data were collected in 2017 from all 11 native pig breeds, 10 of these through the British Pig Association bloodline census.

Of the responses, the steepest positive trends for female population are observed for the Large White and Tamworth breeds, with increases of 15% and 12% respectively.

Of the responses, 4 out of the 11 breeds showed declines in female populations.

## Acknowledgements

The FAnGR committee would like to say a big thank you to all those breed societies already taking part and to Grassroots Systems Ltd., the Rare Breeds Survival Trust and the British Pig Association for their high level of support and input into this project. The FAnGR team would also be happy to hear your feedback on this publication and how it can be enhanced for future years. This annual release will be updated Spring 2019.

## Background

The UK has one of the richest native Farm Animal Genetic Resources (FAnGR) populations in the world and the importance of FAnGR has been recognised at both international and UK levels.

Because of this, a commitment was made under national and global biodiversity strategies to establish an annual inventory to show how breed populations are changing over time. The inventory was set up by Defra in 2013 to deliver that commitment and the inventory is steadily increasing in scope and coverage each year as it becomes established. Once the trends become apparent from the inventory, it enables decisions to be made to safeguard UK livestock biodiversity and to help future-proof UK farming.

The results build on the findings from the 2012 “UK Country Report on Farm Animal Genetic Resources (FAnGR)” and are a collaborative effort between the national Farm Animal Genetic Resources (FAnGR) Expert Committee, Defra and the Devolved Administrations who work together to support the conservation and sustainable use of UK FAnGR. The inventory complements the committee’s other monitoring efforts and the work of the Rare Breeds Survival Trust on conservation and protection of UK rare and native breeds of farm animals.

## Methodology and Data Sources

### Coverage

Data in the inventory is sourced from individual breed society records. As all pedigree animals need to be registered with their respective society to receive their pedigree certificate, the breed society records are comprehensive. Therefore, the data provided for all categories (with the exception of the estimates of breeding females) have complete coverage so require no estimation.

## Methodology

Data is collected annually for around 50% of all breeds and every three years for the others (most latterly in 2015). The annual returns are collated by central organisations that already have access to all the data, either from breed society databases or from surveys which they already run for other purposes. This is designed as a highly efficient way to gather large amounts of data with very little effort by breed societies. Breed societies have given their permission for these companies to supply the data every year for this exercise.

Data for all other breeds is collected via a survey on a three yearly basis; the latest was in October 2015 when we contacted the individual breed societies for the information. Questionnaires are emailed or posted and non-respondents are contacted several times to encourage response. Priority is given to gathering comprehensive data from native breeds.

It is made clear to participating breed societies in advance that all data supplied will be published (as it is all collected at the aggregate level). Therefore, there are no confidentiality issues around the data. Some breed societies already publish this information in their flock/ herd books.

The categories of data collected in the annual and three yearly exercises are exactly the same. The categories collected are for data covering the latest three years:

- Number of pedigree female registrations (fully pure-bred, pedigree registered, UK born)
- Number of pedigree male registrations (fully pure-bred, pedigree registered, UK born)
- Number of active pedigree herds which registered offspring in any of the latest three years
- Number of active pedigree herds which registered pedigree offspring in the specific year
- Annual number of pedigree sires which produced pedigree registered offspring in the year
- Annual number of pedigree dams which produced pedigree registered offspring in the year

Data is published for all these categories and gives a comprehensive picture of the structure of each breed.

A key variable is the number of pedigree breeding females. The actual number of these animals is not always directly available from breed societies as the databases are not always completely up to date. Therefore, estimates are made of this key measure. This estimate is made by multiplying the average number of pedigree female registrations over the previous three complete years by multipliers defined for each species (see Table below) to estimate the number of breeding females (so for example, the number of pedigree breeding females for 2015 is calculated as the average number of female registrations for 2012, 2013 and 2014 and multiplied by the appropriate multiplier below). The multiplier is calculated using historic data on the ratio of the number of adult females in a breed to the number of female registrations in a year. The full technical description for these multipliers is available in the Source document linked below the table.

| Species | Multiplier |
|---------|------------|
| Cattle  | 3.52       |
| Sheep   | 2.41       |
| Pigs    | 2.7        |
| Goats   | 5.16       |

Source: <https://www.gov.uk/government/publications/census-information-on-livestock-breeds>

## Data Sources

All the annual data is reported through either Grassroots Systems Ltd., the British Pig Association or the Rare Breeds Survival Trust. Between them, we receive annual data from around 50% of breeds (125 out of around 250 total breeds) and which accounts for 72% of native breeds (97 out of 134). Coverage has been steadily increasing since the annual inventory was first developed in 2013.

The pig data on numbers of pedigree breeding sows (with the exception of the British Lop and Kune Kune) are sourced from the Bloodline Census, an annual exercise carried out by the British Pig Association (results are available at <http://www.britishpigs.org.uk/breedlist.htm> ). This Census also collects data on the number of members keeping registered pigs so this data has been included as an additional table in the Pigs Section.

## Data uses

The data in this report will be of value to all those with an interest in using, developing and protecting the UK's farm animal genetic resources. This includes breeders, breed societies, associations and non-governmental organisations who are directly involved in their management and conservation. It also includes policymakers, academics and national experts who have an interest in making sure that national and international commitments are met and key issues and trends are being monitored and addressed appropriately. The report will also be of interest to international experts and organisations who are involved in European and global assessments of the state of agricultural biodiversity in the livestock sector.

The data will be used to:

### 1 Enhance knowledge of population size and prevent the loss of breeds

Comprehensive breed inventories and data on the size and structure of breed populations are prerequisites for effective management of Animal Genetic Resources, particularly to identify breeds that are at risk of extinction. Current dependence on a small number of commercial breeds is placing our future food security at risk. An essential defensive strategy is to conserve our breeds/FAnGR in order to future proof our farming.

### 2 Support strategic planning for the sustainable utilisation of animal genetic resources

Without good knowledge of FAnGR, decision-makers at national level, in the breeding industry and in breed societies will be unable to develop strategic plans for sustainable use and development. Knowledge of all the breeds that might be drawn upon, and of the production environments in which the animals can be kept, is needed in order to develop or strengthen animal breeding programmes. The information gained from repeated surveys is important for identifying trends that need to be addressed in future plans, and provides a basis for assessing progress in the implementation of existing plans and policies.

### 3 Improve priority setting for conservation programmes

The limited availability of resources for conservation programmes to protect breeds that are at risk means that priority setting is necessary. Decisions as to which breeds to target for conservation require up-to date information on the risk status of all the breeds under

consideration and on any unique characteristics that the breeds may possess. This information will be used to update the UK Breeds At Risk list (BAR).

#### 4 Enhance knowledge of cross-border genetic linkages

Because of cross-border exchanges of genetic material a national breed population may be part of a common gene pool whose range extends beyond national boundaries. In other words it is appropriate to consider the national population to be part of an international population. Establishing whether or not this is the case may be important for cross-border cooperation in managing the population. Identifying national populations that should be linked at the international level is also important for regional and global assessments of FAnGR diversity.

#### 5 Reporting obligations

Because of the importance of FAnGR, there are national and international obligations for reporting on the status of animal genetic resources.

- 2011 England Biodiversity Strategy.
- UN Food and Agriculture Organisation's (FAO) "Global Plan of Action"
- UN Convention on Biological Diversity "Strategic Plan for Biodiversity 2011-2020" and the Aichi biodiversity goals and targets. The UK biodiversity indicators are used to report on progress towards meeting these goals  
<http://jncc.defra.gov.uk/page-4240>
- Input to the European Farm Animal Biodiversity Information System (EFABIS) and the FAO Global Information System (DAD-IS) to monitor Farm Animal Biodiversity across Europe and globally. The FAO data links all countries into the FAO Global Strategy for the Management of Farm Animal Genetic Resources.

#### 6 Raise public awareness

Survey outputs such as breed population numbers, trends of populations, descriptions of breeds with particularly interesting characteristics or photographs of animals in their production environments, are likely to be useful in the preparation of publicity materials that can promote understanding of the importance of FAnGR among decision-makers and the general public.

### Revisions Policy

If any revisions are required to past data we will update the published results as early as possible and provide information about these revisions in the Excel dataset.

### Quality Assurance

For Quality Assurance reasons, results are shared in advance of publication to members of the FAnGR committee. This is to check that definitions are correct and understandable and that the presentation of tables are clear, contain the most appropriate metadata and in the most suitable format.

## Further data sources

Full results from the Breed Inventory

[www.gov.uk/government/collections/farm-animal-genetic-resources](http://www.gov.uk/government/collections/farm-animal-genetic-resources)

2012 UK Country report <https://www.gov.uk/government/publications/uk-country-report-on-farm-animal-genetic-resources-2012>

FAnGR policy information

<https://www.gov.uk/government/groups/farm-animal-genetic-resources-committee-fangr>

Research report into predicting the number of breeding females based on registration data

<https://www.gov.uk/government/publications/census-information-on-livestock-breeds>

UK biodiversity indicator – animal genetic resources: effective population size of native

breeds at risk <http://jncc.defra.gov.uk/page-4240>