

## Indicator 5: Grazing livestock – beef and sheep breeding regimes

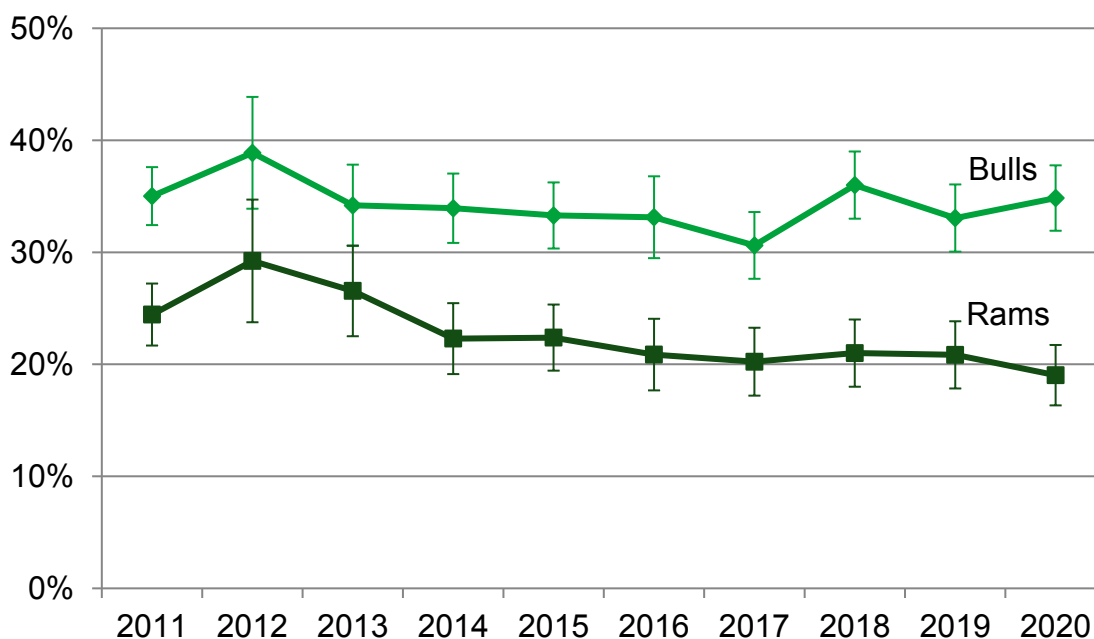
**Rationale:** the selection of useful traits in livestock can help improve herd and flock productivity and efficiency which can in turn influence greenhouse gas (GHG) intensity. The Estimated Breeding Value (EBV) is a measure of the genetic merit an animal possesses for a given trait or characteristic; for example, muscle depth in rams. The EBV is used here as a proxy measure for on-farm GHG emissions intensity.

**Indicator:** percentage of farms using bulls or rams with a high EBV at least most of the time (England).

**Desired outcome:** increasing use of bulls / rams with a high EBV when breeding beef cattle / lambs.

Current status	Long term: (last 10 years)	...	Short term: (2 years)	✓
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Proportion of farms using bulls or rams with high Estimated Breeding Values “always” or “most of the time” when breeding beef or lambs, England



Source: Defra Farm Practices Survey

95% confidence intervals are shown around the survey estimates. We can be 95% confident that the true value lies within these bounds.

Overall in 2020, bulls and rams with a high EBV were used “always” or “most of the time” on 35% of farms breeding beef cattle and 19% of those breeding lambs. This is an increase from 33% on farms breeding cattle and a decrease from 21% on those breeding lambs compared to 2019 levels.

For farms breeding lambs, uptake on lowland farms was greater than on farms in Less Favoured Areas (LFA) (20% and 15% respectively). For farms breeding beef cattle the uptake on lowland farms was 33% and on LFA farms 30%.

There are differences between farm sizes with usage greatest on larger farms. In 2020, 31% of large farms breeding lambs used a ram with a high EBV “always” or “most of the time” compared to 15% of small farms. For those breeding beef cattle 45% of large farms used bulls with a high EBV “always” or “most of the time” while usage for small farms was 28%.

### **Data sources**

Data relating to beef and sheep breeding regimes have been collected within the Farm Practices Survey since 2011.

### **Indicator methodology**

The indicator is based on responses to the question:

How often do you or your advisor use bulls or rams with a high Estimated Breeding Value (EBV) when breeding beef cattle or lambs?

The indicator shows uptake only. Improvements resulting from breeding regimes can, by their very nature, take several years to show results.

This indicator and others in the framework that focus on livestock give an insight into the efficiency of production where this can impact on GHG emissions and are intended to be viewed within the context of animal welfare regulations and legislation. In order to examine the wider potential implications of GHG mitigation measures Defra has commissioned a research (project AC0226<sup>1</sup>) to consider the impacts of efficiency measures on a range of areas including animal health and welfare.

### **Statistical background**

#### **Farm Practices Survey**

Defra’s Farm Practices Survey (FPS) is an annual, voluntary, postal survey which collects information on a diverse range of topics relating to the impact of farming practices on the environment. Since 2011 the survey has focused on practices relating to GHG mitigation.

In 2020 the survey was sent to approximately 7,000 holdings in England. These holdings were targeted by farm type and size to ensure a representative sample. Sample sizes and response rates are shown in Table 1.

## Statistical background (continued)

### Farm Practices Survey sample sizes and response rates

	2013	2014	2015	2016	2017	2018	2019	2020
Sample size	5,500	6,000	6,000	6,000	6,000	6,000	6,000	7,000
Response rate	37%	41%	44%	38%	39%	40%	38%	35%

Thresholds are applied to ensure that very small holdings with little agricultural activity are not included in the survey. To be included in the sample, holdings had to have at least 50 cattle, 100 sheep, 100 pigs, 1,000 poultry or 20 hectares of arable crops or orchards. All results reflect only those holdings that exceed these thresholds.

Results are calculated using a standard methodology for stratified random surveys to produce national estimates. With this method, all of the data is weighted according to the inverse sampling fraction. Where reference is made to the type of farm in this document, this refers to the 'robust type', which is a standardised farm classification system. Farm sizes are based on the estimated labour requirements for the holding, rather than its land area.

Results from the Farm Practices Survey are designated National Statistics. These are official statistics which have been assessed and comply with the National Statistics code of practice. 95% confidence intervals are shown within the chart. These are the values that may apply to the figures, they mean that there is 95% confidence that the true value lies within the range on either side of the estimate.

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<sup>1</sup> Quantifying, monitoring and minimising wider impacts of GHG mitigation measures – AC0226

<http://randd.defra.gov.uk/Default.aspx?Menu=Menu&Module=More&Location=None&ProjectID=17780&FromSearch=Y&Publisher=1&SearchText=AC0226&SortString=ProjectCode&SortOrder=Asc&Paging=10#Description>