Department for Environment Food & Rural Affairs

Farming Commodity Dashboards

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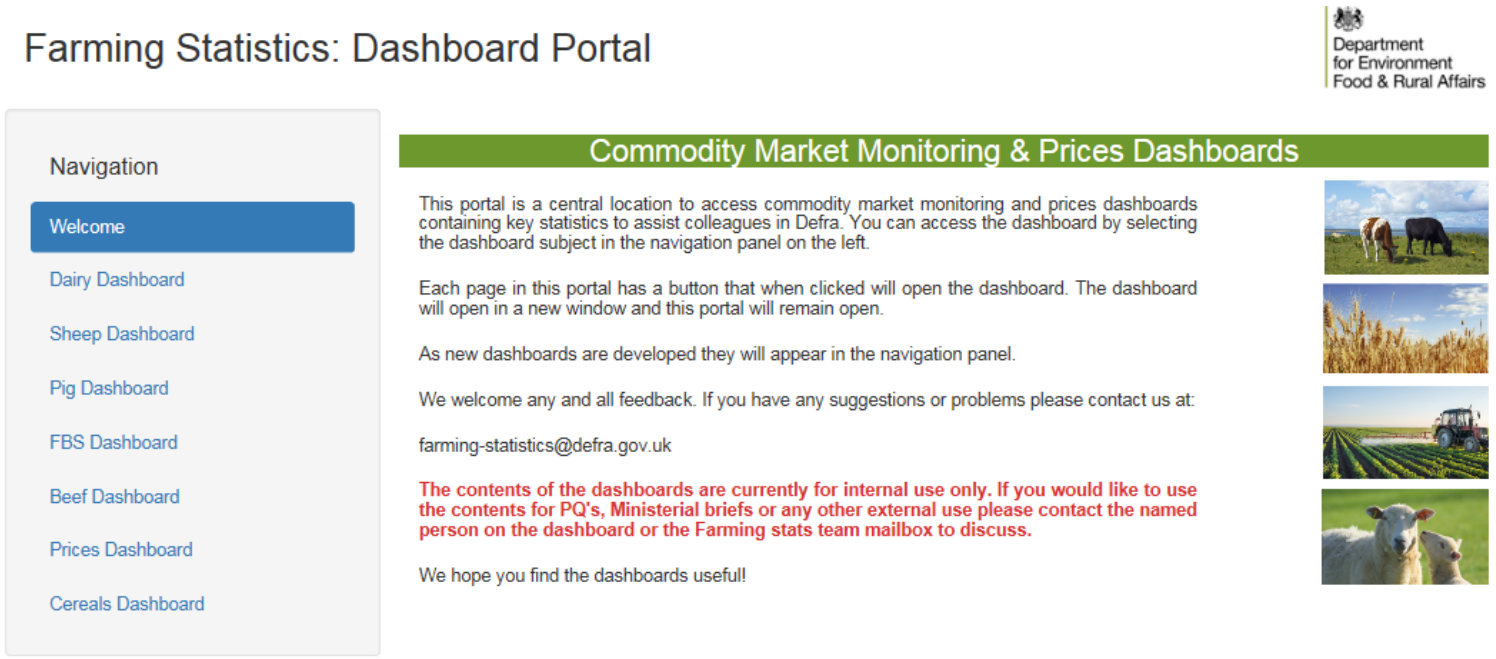
Forestry Commission England | NATURAL ENGLAND | Environment Agency

What are the Farming Commodity Dashboards?

The Farming Commodity Dashboards are a central resource to access and view available data on different farming sectors.

These consist of:

- Sheep
- Beef
- Pigs
- Dairy
- Cereals
- Prices



What are they used for?

- Monitor markets post EU Exit
- Ministerial briefings
- Central resource to access available data
- Increase awareness of data to policy

How do our dashboards meet policy needs?

- Improve awareness of available data, particularly in demand in lead up to EU Exit
- Increase user engagement with interactive graphs
- Allowed flexibility in how we can view the data; no “one size fits all” approach
- Greater opportunity to automate data flow
- Potential to create an external facing dashboard

How did they start

- Looked at selection of technologies; Shiny, other R dashboards, PowerBI and Tableau
- Choose a subject matter
- Set time aside
- Regular meetings between developers and policy
  - What data did they need
  - How they were using the data
  - Key figures
  - How to get the most out of the data

The dashboard in action!

Prices

Welcome
Feed Prices
Cereal Prices
Fruit and Veg Prices
Banana Prices
Dairy Prices
Egg Prices
Sheep Prices
Pig Prices
Beef Prices
Other dashboards

Department for Environment Food & Rural Affairs

Welcome to the Prices dashboard

The contents of this dashboard are currently for internal use only. If you would like to use the contents for PQ's, Ministerial briefs or any other external use please contact the Farming stats team at farming-statistics@defra.gov.uk to discuss.

We hope you find these pages useful as as up-to-date and comprehensive source of prices data on the farming sector.

Data is presented for England and the UK from a variety of data sources, including Defra, industry and HMRC. The data is updated regularly to give you the latest insight into the horticulture industry.

The time series and charts within this dashboard are interactive! Try clicking on the legend items, hovering over the data points or highlighting a group of points with your mouse. There are options in the top right of the chart to reset to the orginal.

Warning!

This dashboard may take a few minutes to open, but once fully launched will be responsive.

Instructions

If using Chrome or Internet Explorer and the page goes grey and unresponsive, press the following four keys at the same time

- Control
- Shift
- Alt
- A Then deselect everything but “iframe-xhr-polling” on the “Select Network Methods” menu, press “OK” and refresh the page. You will only need to do this once.

Suggestions and Problems

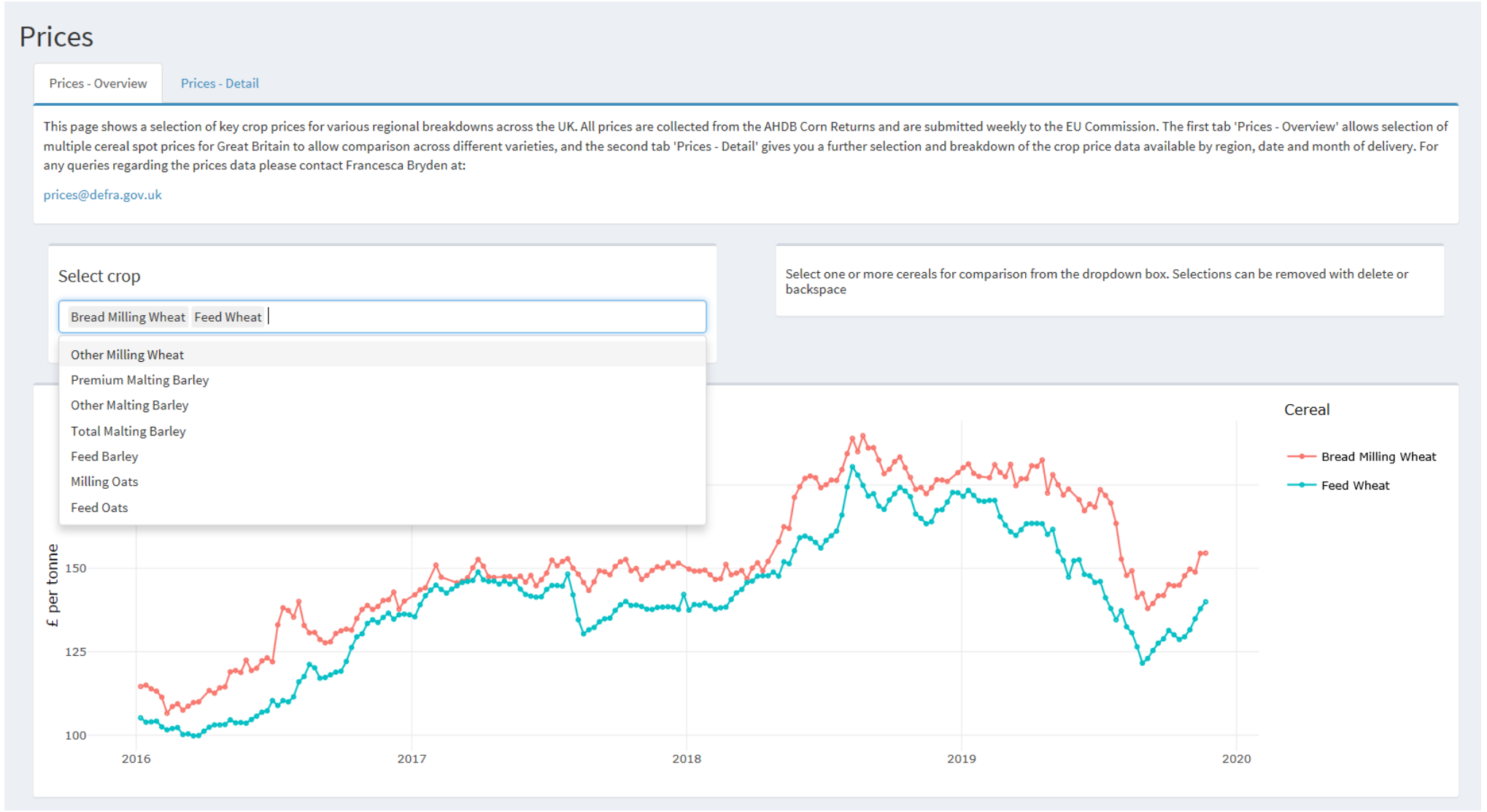
We welcome any and all feedback. If you have any suggestions or problems please contact us at: farming-statistics@defra.gov.uk

Known bugs and improvements

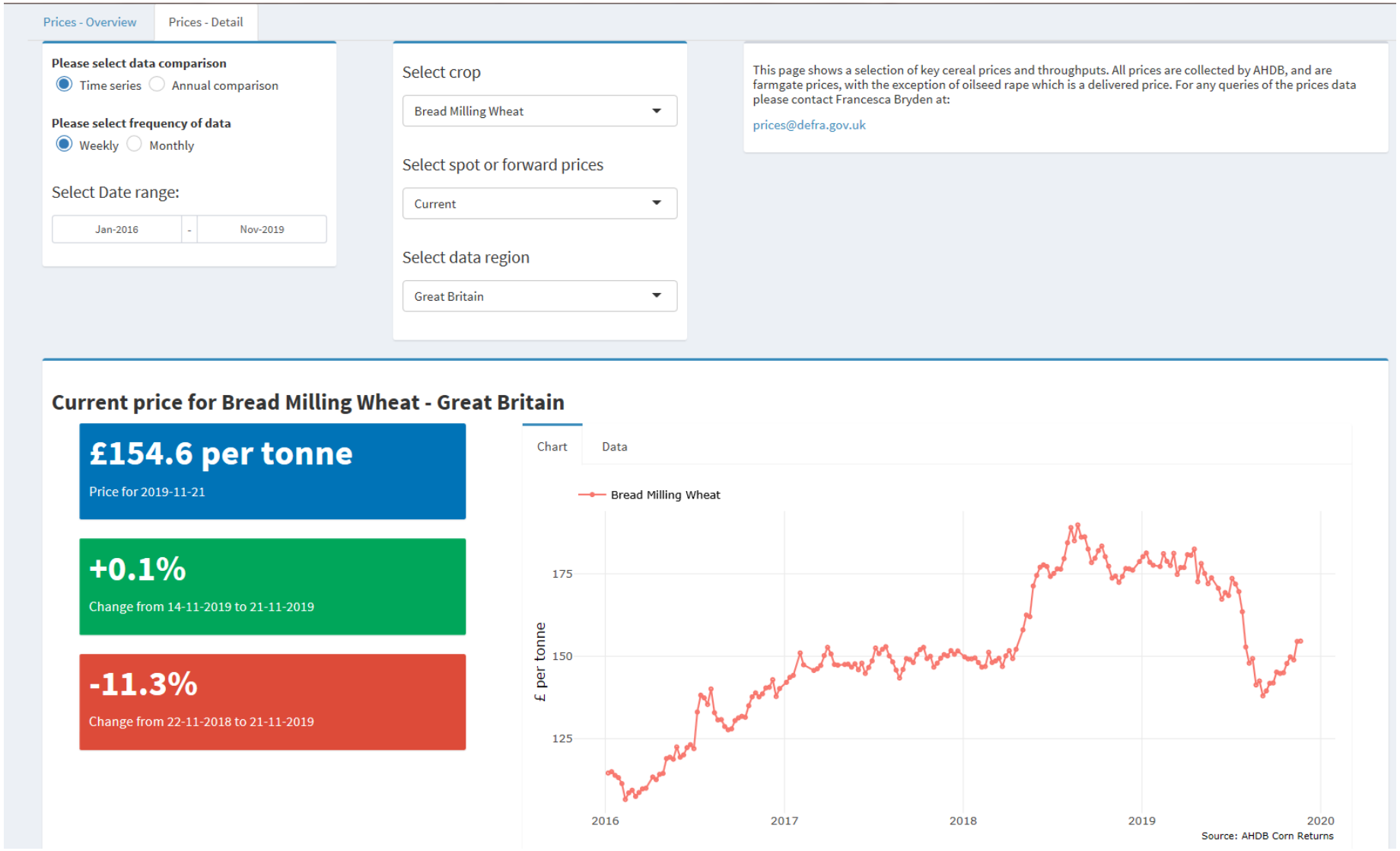
There are currently a range of known bugs we are currently working on, these are:

- Resolution problems, at some screen resolutions graphs and figures become squished
- Value boxes, text overflow on some value boxes

The dashboard in action!

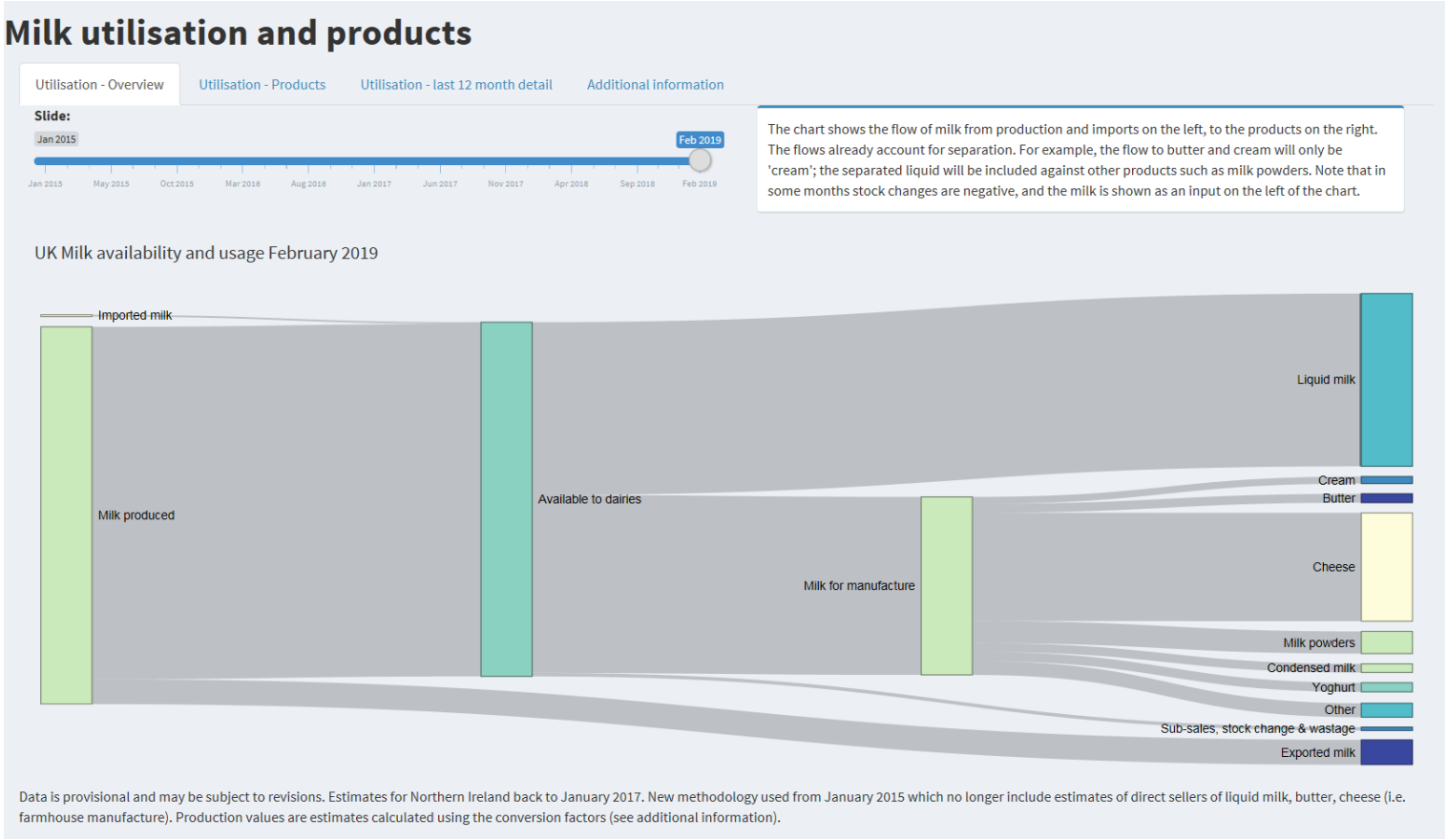


The dashboard in action!



Development: Upskilling

- R/Rshiny
  - Data visualisation
  - Data wrangling
  - Webscraping
- AWS
  - Data storage
- GitHub
  - Version control

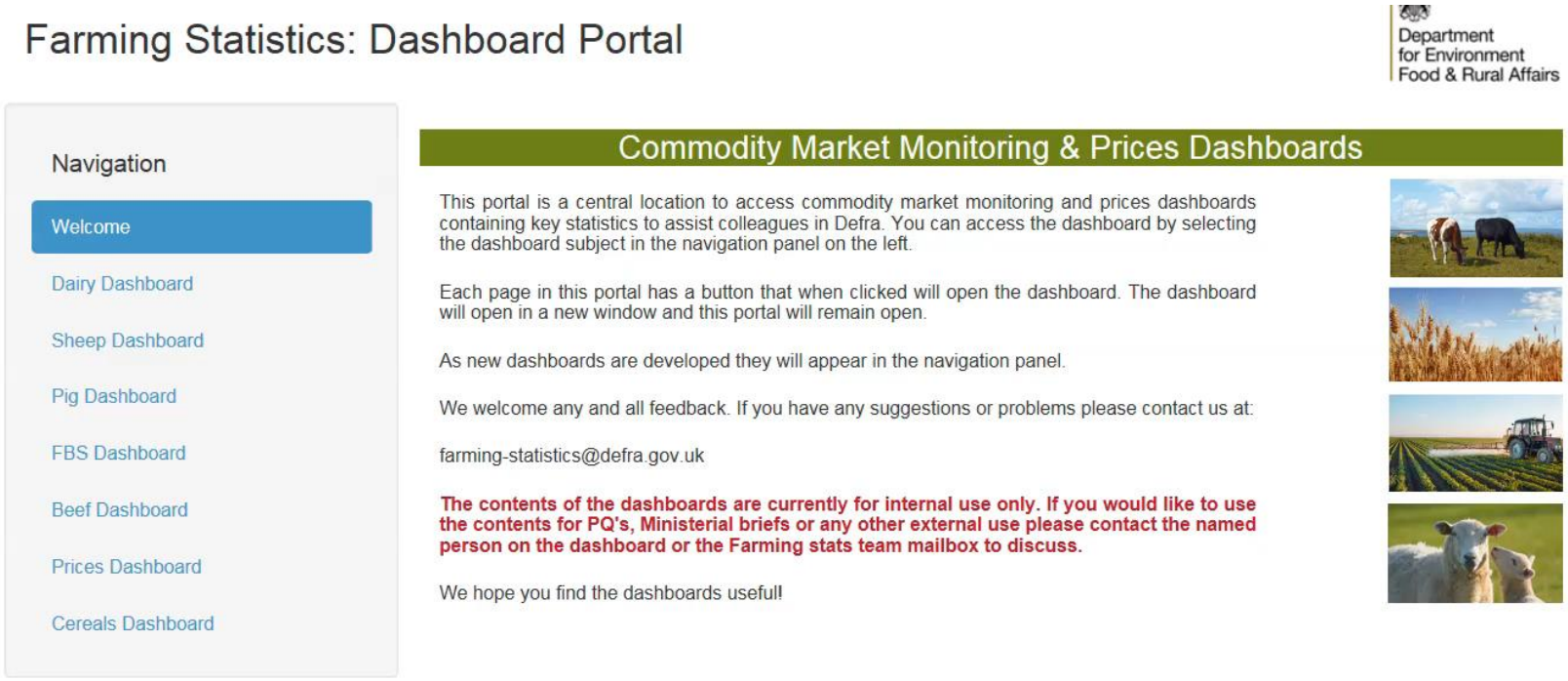


Development – dissemination and updating data

- Disseminating the dashboards
  - Develop internal servers using virtual machines
- Updating the dashboards
  - Automation
  - Webscraping
  - Data flow
  - AWS

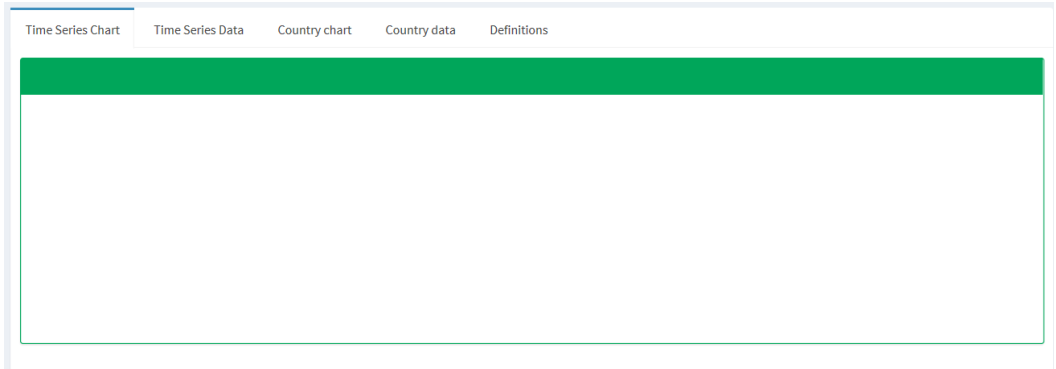
Development: The dashboard portal…

- The most common query we received; “why isn’t there a dashboard for X”…and often there already was!
- Need for a centralised portal; simple Shiny dashboard to act as a landing page.



Challenge faced: Usability and inspiring user patience!

- Hosting the dashboards on the SCE means that loading times can be long, and users can be impatient…
- Lack of understanding leads to a lot of “it’s broken!” emails



- Shinycssloaders; provides a simple function that wraps graphs to add a loading “whirligig”
- Example of a small change that can really improve user experience (with only one line of code!)

Challenges faced: AHDB and the forbidden data…

- For many of the farming commodities, Defra is a data user but NOT the data owner.
- We have a close working partnership with the AHDB and have access to all of this data either via their website or in weekly/monthly reports.
- So, simple to include this in a dashboard??

Challenges faced: Externally facing

We want to make these dashboards externally facing to make the data we have more accessible and to centralise available data.

Issues creating an external dashboard:

- Making sure the dashboard is accessible for all
  - People with screen readers
  - Colour blind
- A place to host the dashboard
  - DDTS approved
  - Fully costed

Challenges faced: QA'ing and the free sheep

- Aim to provide data in a timely and accurate manner, however there are many challenges to this
- Much of the data not collected by Defra; little control over format data is available in, when and where it is available.
- Much of it updates on a weekly schedule and needs to be available on very tight timescale

- Massive QA challenge…don't ask us about free sheep!
- Automated QA procedures at multiple stages; in data transfer, and following uploading.
- Challenging as data owners can change data structure and location frequently.
- Possible for incorrect data to pass these tests and still a high level of manual data transfer at this time.

Challenges faced: Version control and the missing files

As our dashboards got bigger and more people working on them file/version control got more important/complicated.

- Multiples versions due to copies on both the server and home drives
- Problems with multiple people working in the same file

To help work around these issues we started using the file management system Git/GitHub.

- Allows us to have a master version of each dashboard
- Track all changes

Challenges faced: Sharing data with the DAs and automatically generating reports

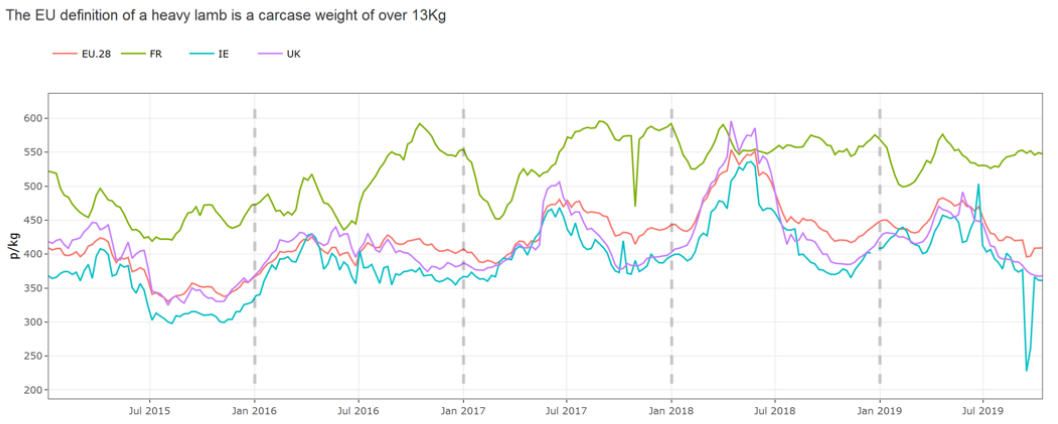
A group across the DAs were wanting to use our dashboards in their regular meetings.

- Due to them being internal, only Defra employees can view the dashboards

To get around this we created a report which you can send via email. These can take many forms:

- html presentation
- html dashboard
- PowerPoint presentation
- pdf

How have weekly prices for heavy lambs (Deadweight) in Europe changed in the last week?



EU average w/e 13/10/2019 **£4.09/kg**

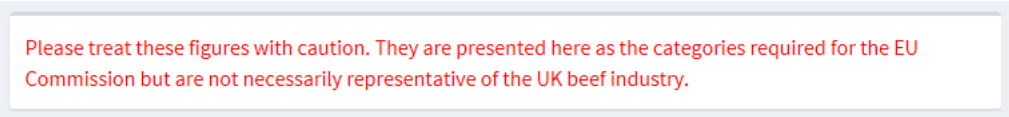
French w/e 13/10/2019 **£5.47/kg**

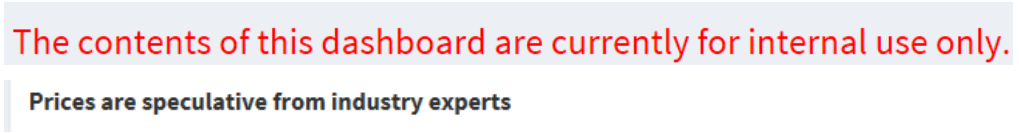
Ireland w/e 13/10/2019 **£3.61/kg**

UK w/e 13/10/2019 **£3.68/kg**

Challenges faced: mis-use of data

- Data is complex!
- Prices dashboards inevitably mean that people can take data for any application they like, without statistician input.
- How do we prevent data misuse?
  - Contact details prominently advertised
  - Selection of data to show on dashboards
  - Warning messages for particularly sensitive/complex data





- Dashboards have actually helped in many ways; people use our data rather than third-party data with even more challenges!
- Despite this, data mis-use represents an ongoing challenge

Success story:

- Dashboards have been widely adopted across Defra; reduction in requests for simple data or graphs.
- Highlighting our datasets to policy teams; more questions asking “how can I use this?” and not “do we have…?”
- Meeting the need of market monitoring post EU Exit, with maximum flexibility and minimum input from busy stats teams.
- Data has been shared widely, including in ministerial briefings.
- Allows QA of data previously only published in very dry “datasheet” format. Improves identification of errors on a weekly basis, as well as checking of back series.
- A general increase of interest in data science; increased implementation of R solutions in a department previously heavily reliant on Excel.
- R coffee and coding sessions

Further development

- Link to GitHub
- Link to Huddle
- Clearer distinction between sensitive and non-sensitive data
- Machine readable data
- Future dashboard

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Any Questions?

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