



HM Government

PRIVATE AND PUBLIC SECTOR FUNDING OF AGRI-TECH R&D: FY 2012/13

July 2016

Contents

- Contents 2**
- Background 3**
- Methodology 4**
 - Overall..... 4
 - Private Sector..... 4
 - Public Sector..... 4
 - Data analysis 4
 - Caveats and the use of data 6
- High level data7**
 - Public sector 7
 - Private sector 9
 - Research areas 11
- Crops and edible fungi15**
 - Public sector16
 - Private sector 24
- Livestock 25**
- Environment, agri-systems and soils..... 31**
- Engineering and non-Life Sciences 34**
- Economics and Social Science 36**
- Studentships 37**
- Frascati Coding 38**
- Institutional data 40**
- Acronyms 46**

Background

This data was collated on behalf of the Agri-tech Leadership Council (LC) in 2014/15 in order to address Action 1 (and contribute to Action 2) of the Agri-tech Strategy (1). It involved mapping the agri-tech research landscape, through a snap-shot of research and studentship investments over the financial year 2012/13.

The data presented here summarises data gathered from the main UK public funders and through a survey of the UK private sector, drawing contrasts and comparisons where appropriate. Defra commissioned ADAS and SRUC to collect and analyse data from private sector funders. BBSRC coordinated the collection and analysis of data from public sector funders. This also included a light touch survey of research activity in the main agri-tech research organisations.

Both these work-streams were coordinated by BIS and the Leadership Council Action 1 Working Group, which reported back to the Agri-tech Leadership Council.

Some public funders invest significantly in related areas such as food and nutrition (e.g. BBSRC, FSA, MRC, DH) but this data is excluded; the presented data is focused exclusively on agricultural research based on the remit of the then Agri-tech Leadership Council.

Reuse and reference to this data should acknowledge the “Private and public sector funding of agri-tech R&D: FY2012/13”. A list of acronyms is provided at the end of this document.

(1) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/227259/9643-BIS-UK_Agri_Tech_Strategy_Accessible.pdf

Methodology

Overall

Data was collected via surveys which were tailored to the target respondent (UK private sector; UK public funders and providers). In order to allow cross-comparison in both instances the LC working definition of “agri-tech”, and the same research categorisation was used.

Private sector

The 2013 Agri-tech Company Listing and UKTI’s agri-tech stakeholder’s lists were used to target the survey; with a sub-group highlighted as key respondents. In total 145 companies participated, with 124 full submissions, and 21 partially completing the survey. In addition 15 telephone interviews of a cross-section of company sizes and spend were conducted.

Public sector

All main UK public funders of agriculture and food research were approached. These comprised 15 funders, 5 of whom noted spend in food and nutrition but not agriculture. Some key research providers were also approached in order to validate data.

Data analysis

Data collected via these surveys and interviews was categorised using the key research areas identified in Table 1. Due to the multi-disciplinary nature of this area, some of grants/ programmes have been allocated to more than one category.

Table 1: Research categories and sub-categories

Levels	Category and sub-categories
Level 1 (Category)	Crops and edible fungi
Level 2 (Sub-categories)	Combinables Sugar beet Grassland and pasture Fruit Vegetables Potatoes Other Horticulture Non-food crops

	Other (specify)
Level 3 (Sub-category breakdown)	Pests, diseases and weeds

Levels	Category and sub-categories
Level 1 (Category)	Livestock
Level 2 (Sub-categories)	Large ruminants Small ruminants Pigs Poultry Aquaculture Other (specify)
Level 3 (Sub-category breakdown)	Diseases and parasites Production

Levels	Category and sub-categories
Level 1 (Category)	Environment, agri-systems and soils
Level 2 (Sub-categories)	Soils Supporting services Other ecosystem services Meteorology and climatology Air quality Provisioning services other than food Water quality Valuing ecosystem services Farming systems

Levels	Category and sub-categories
Level 1 (Category)	Engineering and non-life science
Level 2 (Sub-categories)	Agri-engineering AD and energy generation

	Waste management Water management Buildings and architecture
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Levels	Category and sub-categories
Level 1 (Category)	Economics and Social Science

Caveats and the use of data

When considering the data presented in this report it is important to note the following points:

- This data predates investment from the UK Agri-tech Strategy, and so does not include investments in the Agri-tech Catalyst or the Agri-tech Centres.
- Some categories and sub-categories of private funding have not been presented to preserve commercial confidentiality.
- Data obtained relates to agri-tech only, which will differ from previously published government agri-food figures such as those in the Agri-tech Strategy (2) and the UK Cross-Government Food Research and Innovation Strategy (3) which included post-farm gate, and food and nutrition related research.
- Data has been broken into sub-categories designed by the Agri-tech Leadership Council Action 1 Working Group to appropriately disaggregate the data; they do not represent particular priorities.
- Several research grants could be counted against more than one category due to the multidisciplinary nature of the work. If possible, the total funding has been partitioned across categories to avoid distortion of the data, but, in some cases, this is an approximation.
- Data does not include funding from the EU, charities or other third party sources.

(2) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/227259/9643-BIS-UK_Agri_Tech_Strategy_Accessible.pdf

(3) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/294127/cross-government-food-research-strategy.pdf

High level data

Public sector

The spend figure for agri-tech in the public sector was £320M (including studentships and capital spend). This is consistent with past government spend figures of circa £450M (4) which included post-harvest aspects of agriculture, food and nutrition. Current government estimates for the equivalent industry R&D spend is approximately £0.5Bn.

The overall ratios of spend (see Figure 1, and Table 2) are consistent with previously published data on government agri-food spend and expectations based on the responsibilities and remit of each organisation.

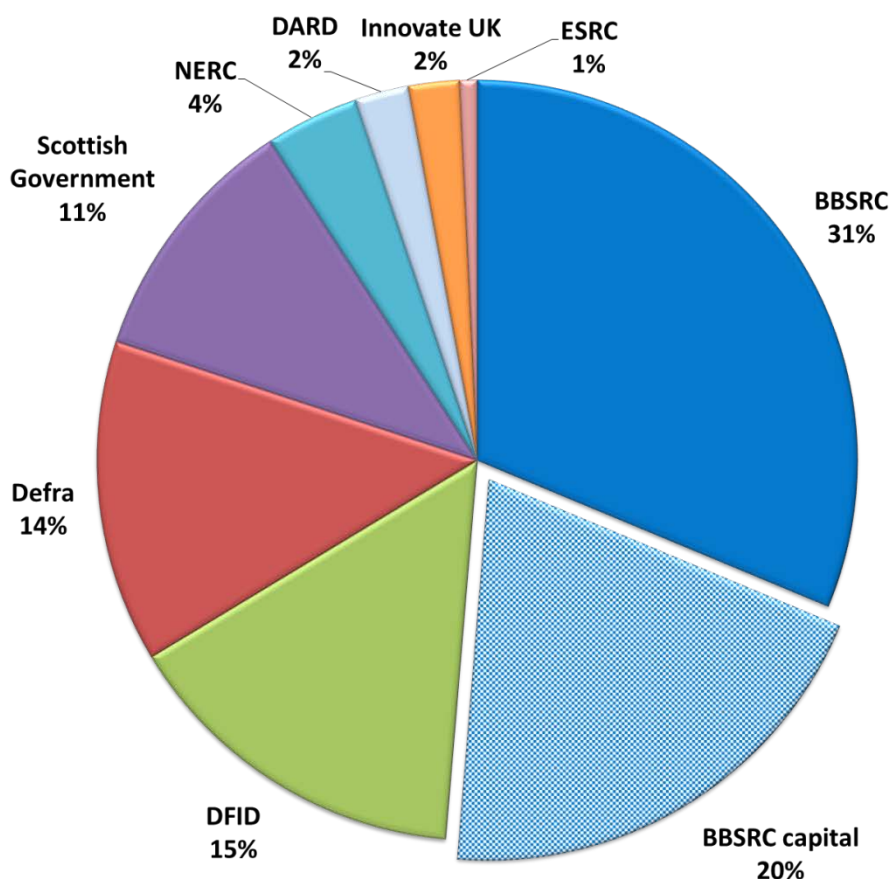


Figure 1: Total agri-tech spend by public sector funders

(4) https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/227259/9643-BIS-UK_Agri_Tech_Strategy_Accessible.pdf

Table 2: Total agri-tech spend by public sector funders

Funder	Total Spend (£M)
BBSRC	99.4
BBSRC capital*	63.7
DFID**	47.8
Defra	43.5
Scottish Government	34.2
NERC	12.6
DARD	7.2
Innovate UK	6.9
ESRC	2.4
Welsh Government	1.3
DECC	0.6
FSA	0.1
AGRI-TECH TOTAL	319.8

BBSRC is significantly the main Research Council funder of agri-tech, accounting for 51% of investments (31% research and 20% capital - *the capital includes a one-off capital award as part of the Chancellors 2012 spending allocations). This primarily reflects their lead responsibility for this area of research amongst the Research Councils. The prominence of DFID spend among the government departments is a reflection of the importance of agricultural research in supporting ODA**, and includes investments in international consortia. Defra are the lead Department with responsibility for agriculture, which is consistent with their prominence. The importance of agriculture and food to the Scottish Government is reflected in their relatively high spend compared to their overall budget.

It is important to note that BBSRC, FSA, MRC and a number of other funders do have additional spend in food and nutrition related areas which is not included here.

Private sector

The private sector stakeholders surveyed spent £496M on agri-tech R&D. The distribution of this spend across the sector is heavily skewed towards a small number of stakeholders making large investments in this area (see Figure 2 and Table 3).

78% of investments were made by very large enterprises, accounting for just 9% of those surveyed. However, the micro and small enterprises making up 61% of the cohort, by number, represent just 4% of the spend (see Figure 2).

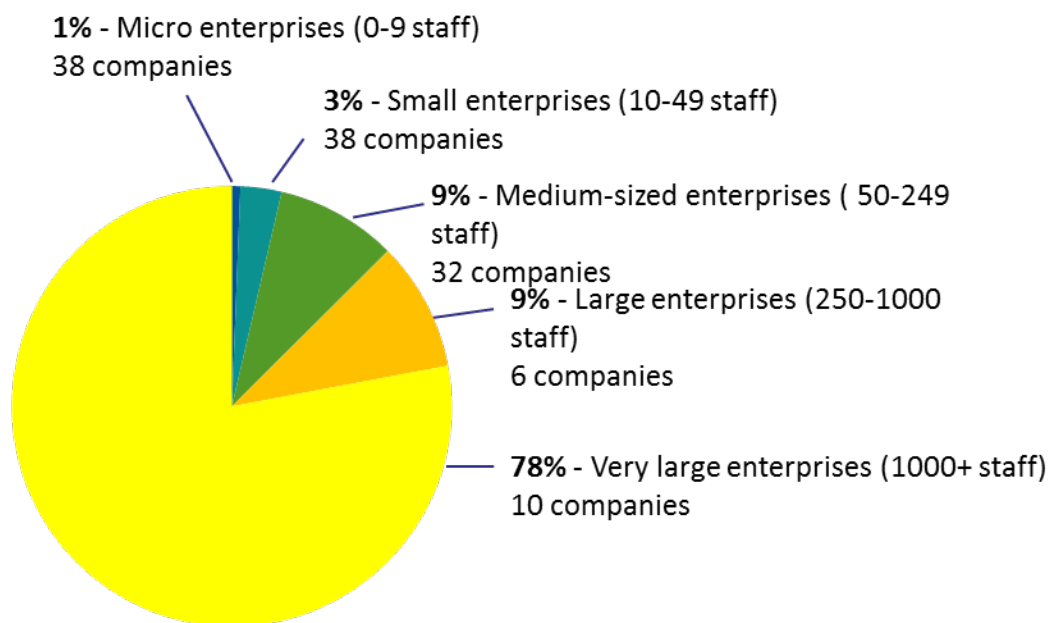


Figure 2: Private sector agri-tech R&D spend broken down by enterprise size

Table 3: Private sector agri-tech R&D spend broken down by spend category

Spend category	Number of companies
<£20,000	36
≥£20,000 - <£100,000	36
≥£100,000 - <£500,000	43
≥£500,000 - <£1,000,000	6
≥£1,000,000 - <£5,000,000	15
≥£5,000,000	8

In addition spend by multinational companies was also prominent (83%), with only 17% of investments made by UK only companies (see Figure 3).

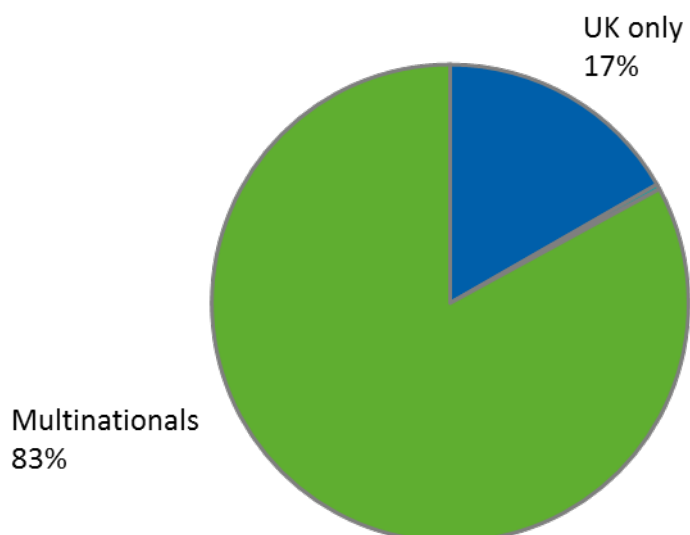


Figure 3: Private sector agri-tech R&D spend broken down by company type

Within the surveys and interviews, stakeholders were asked to consider future spend on agri-tech R &D. 84% of respondents expect their R&D spend to be maintained or increase over the next 5 years.

Spend levels on R&D was comparable to the size of the enterprises, with half spending less than £100K on R&D in 2012/13:

- 25% of companies spent up to £25k
- 50% of companies spent up to £100k
- 30% of companies invested £100-500k in agri-tech R&D
- 23 companies spent >£1M
- 8 spent >£5M

Research areas

When considering the balance of spend in 2012/13 across the research categories (see Figure 4), public funding on crops and livestock is comparable, reflecting the relative importance of these sectors to agriculture in the UK.

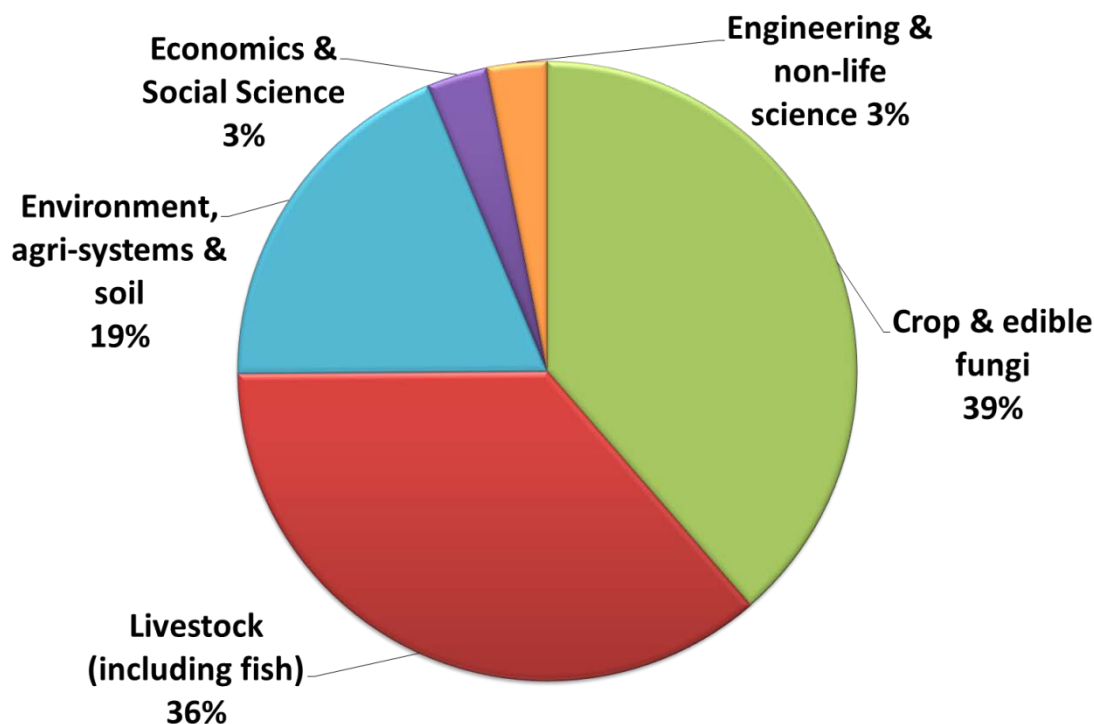


Figure 4: Public agri-tech spend broken down by research category (total £206M)

To note that, based on the information available, some spend could not be accurately categorised into these specific areas. The total spend value for investments in the research areas that could be accurately sub-divided was £206M. Of this Crops and edible fungi had the highest spend (£80M), followed by Livestock (£75M). Economics and social science (£6.5M) and Engineering and non-life science (£6.5M) were less well represented, receiving less than £10M each.

Similarly, agri-engineering is currently a smaller sector in the economy and the spend levels reflect this. This could also reflect the relatively small size of the UK research community. Commercial funding for agri-engineering significantly exceeds public funding in the UK, but this data does not include recent new investment from Innovate UK and BBSRC through the Agri-tech Catalyst and Agri-tech Centres.

Soils and associated ecosystem services represent vital components of agriculture systems. The figure of 20% for public research spend in these areas reflects this importance. This area of spend is less well represented in private sector funding emphasising the “public-good” role for government in supporting research in this area.

Within the private sector, data was only available for publication in three research categories, Economics and social sciences, Crops and edible fungi, and Environment, agri-systems and soils. Spend in these areas varied both in terms of the proportion of investments from UK-only versus multinational companies as well as in relation to the size of the companies investing.

The majority of spend in the Economics and social science category is in UK only companies (65%), whilst for both Crops and edible fungi, and Environment, agri-systems and soils over two thirds of investments were made by multinationals (see Figures 5,6 and 7). This is reflected in the spread of company sizes, with Crops and edible fungi, and Environment, agri-systems and soils also receiving a much greater investment from large enterprises (81% and 44% respectively). Micro-enterprises are particularly prominent in the Economics and social sciences category (see Figures 8, 9 and 10).

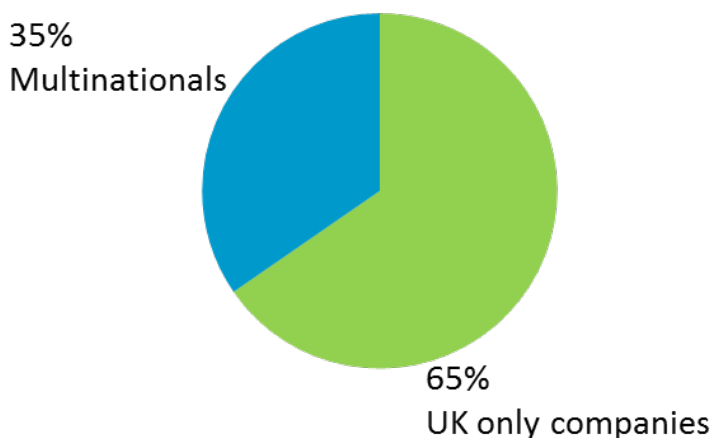


Figure 5: Agri-tech spend by UK-only companies versus multinationals: Economic and social science

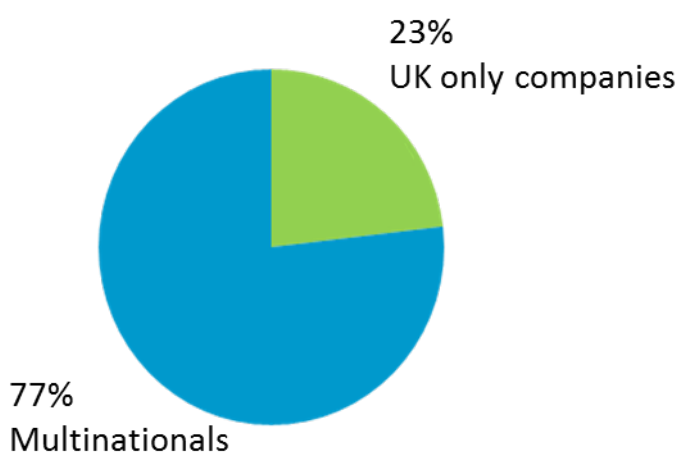


Figure 6: Agri-tech spend by UK-only companies versus multinationals: Crops and edible fungi

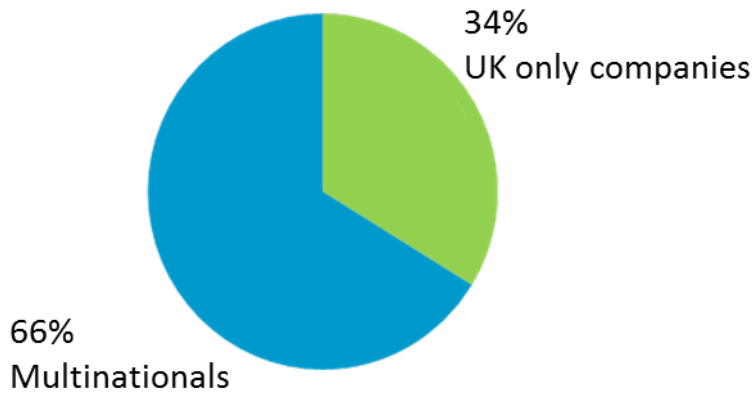
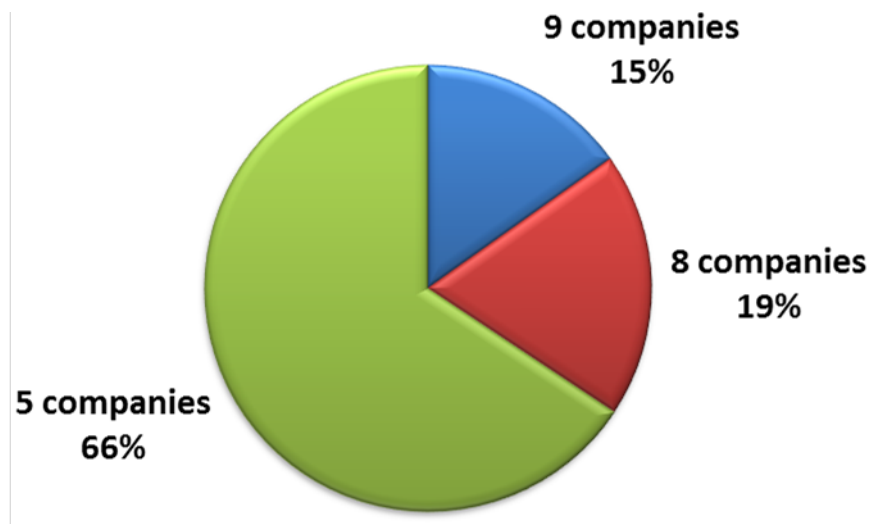
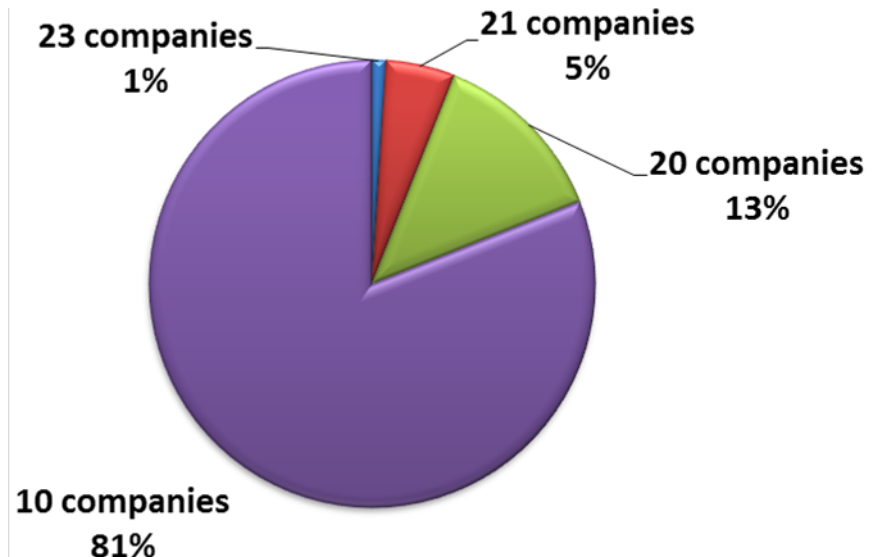


Figure 7: Agri-tech spend by UK-only companies versus multinationals: Environment, agri-systems and soils



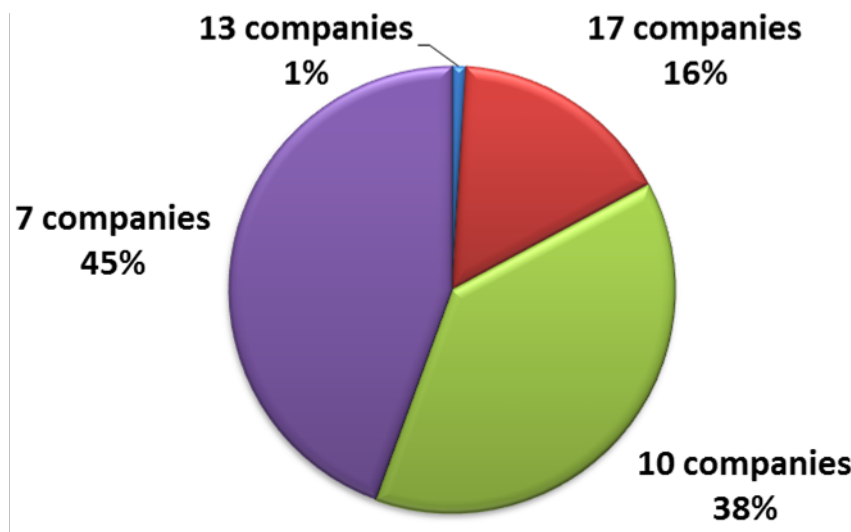
- Micro enterprises (1-9 staff)
- Small enterprises (10-49 staff)
- Medium-sized enterprises (50-249 staff)
- Large enterprises (250+ staff)

Figure 8: Private sector spend for each research category broken down by company type (size and number): Economics and social science



- Micro enterprises (1-9 staff)
- Small enterprises (10-49 staff)
- Medium-sized enterprises (50-249 staff)
- Large enterprises (250+ staff)

Figure 9: Private sector agri-tech spend for each research category broken down by company type (size and number): Crops and edible fungi



- Micro enterprises (1-9 staff)
- Small enterprises (10-49 staff)
- Medium-sized enterprises (50-249 staff)
- Large enterprises (250+ staff)

Figure 10: Private sector agri-tech spend for each research category broken down by company type (size and number): Environment, agri-systems and soils

Crops and edible fungi

Whilst the private sector spend on crop related agri-tech research is much greater than that of the public funders, the balance of spend across the sub-categories is relatively similar (see Figures 11 and 12). The public sector investment on Crop and edible fungi research was £80M of which £75M which could be sub-categorised. Although combinable crops represent the largest area of spend, reflecting the importance of staple crops to food supply and the economy, horticulture (including potatoes) are also well represented.

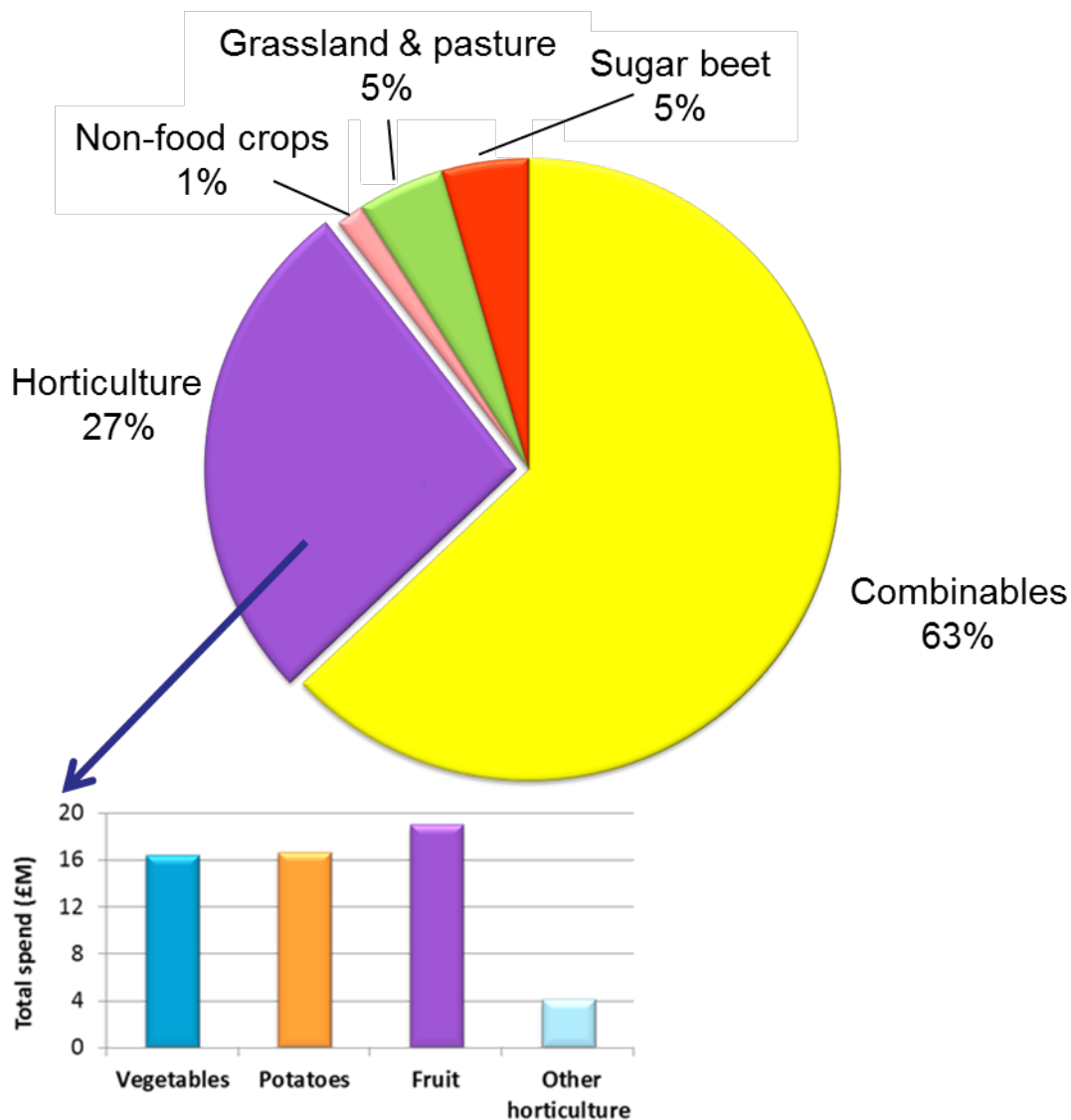


Figure 11: Private sector agri-tech spend on Crop and edible fungi related research (£161M)

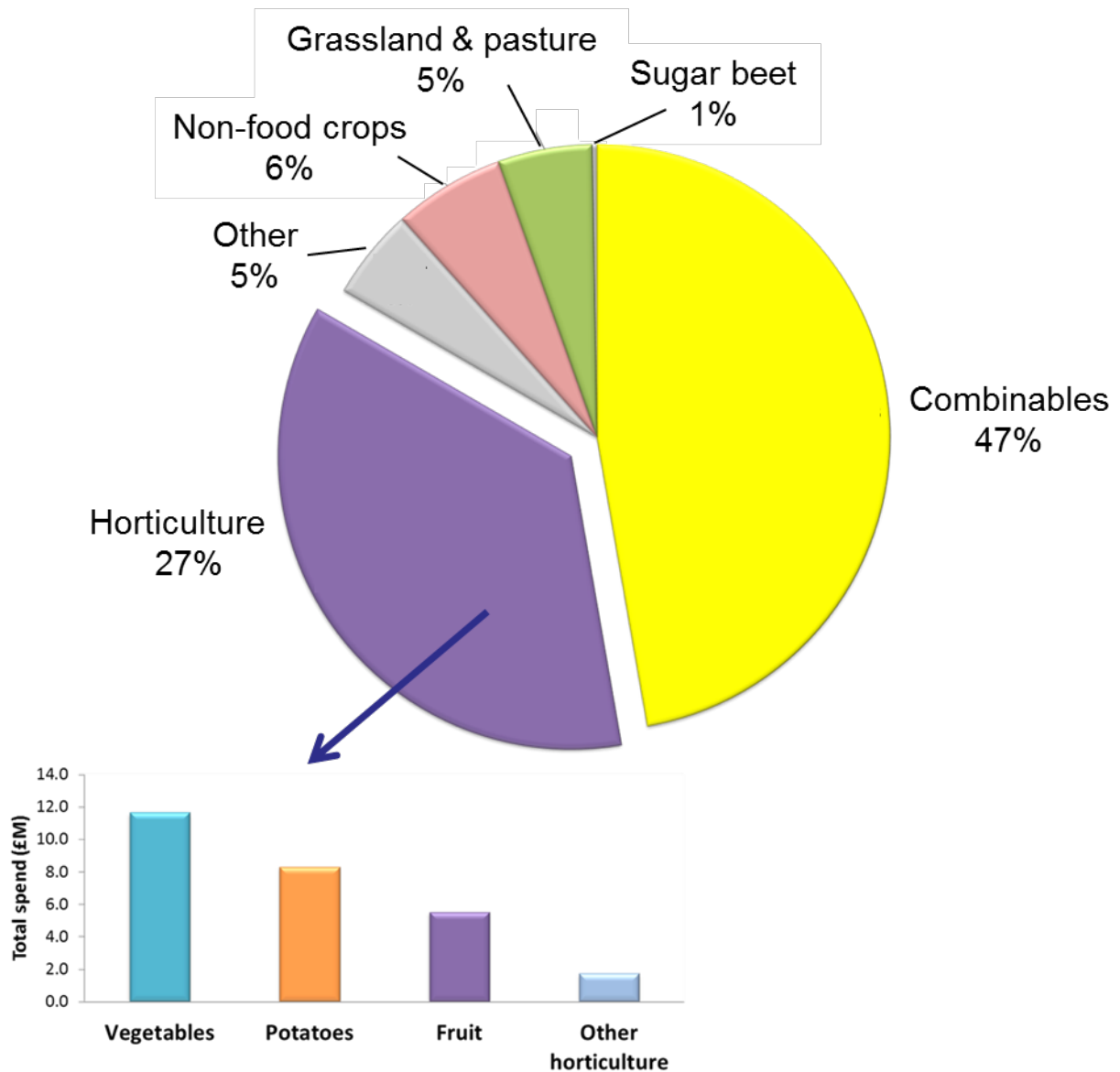


Figure 12: Public agri-tech spend on Crop and edible fungi related research (£80M)

Public sector

£80M of public sector agri-tech research spend is in Crops and edible fungi. BBSRC contributed the most to crops in 2012/13 followed by Scottish Government, DFID and Defra (see Figure 13). FSA, DECC, ESRC and Welsh Government spent less than £1M on Crops and edible fungi in 2012/13 so they are not represented in Figure 13.

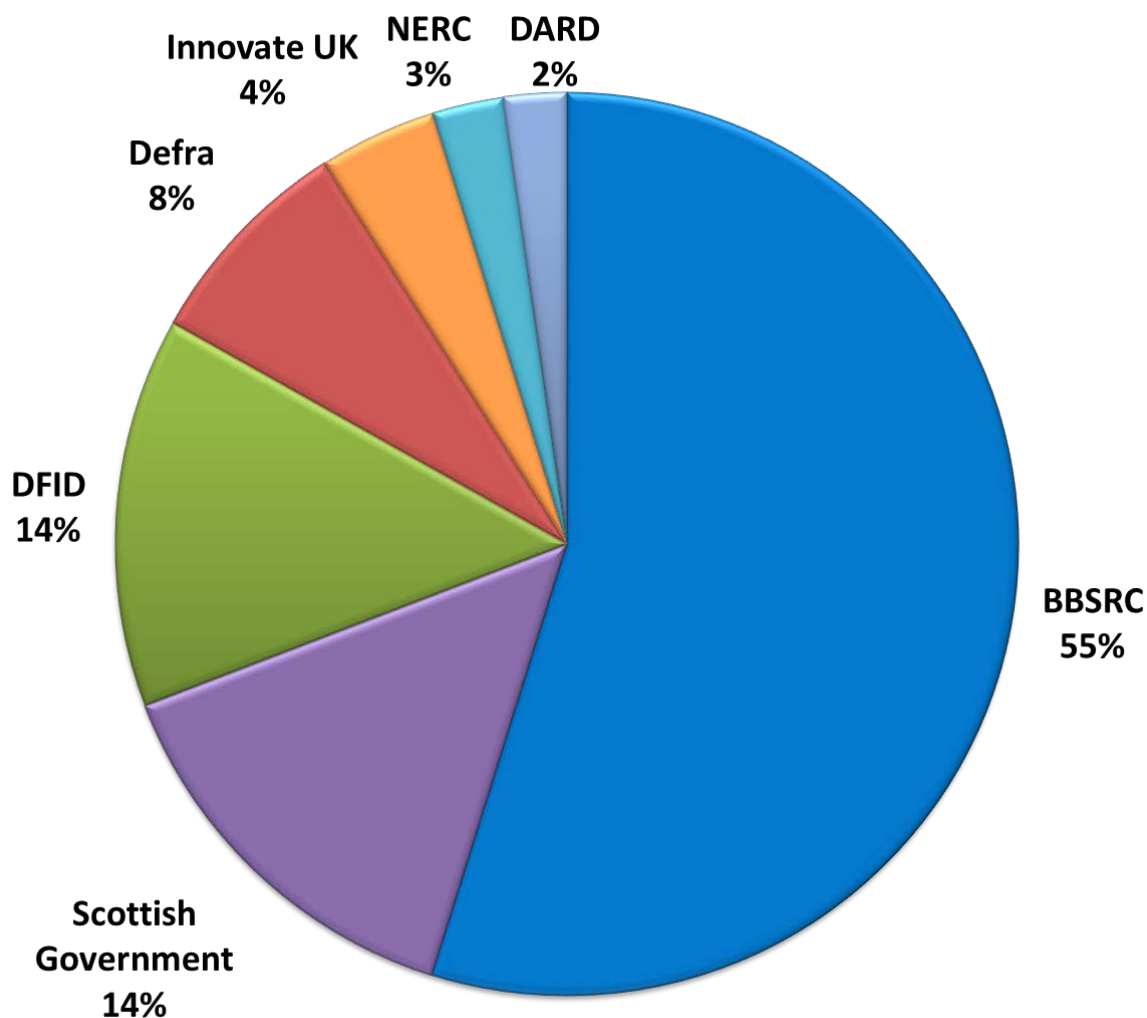


Figure 13: Public agri-tech crop-related spend broken down by funder

There are significant differences between funders with regard to crop sub-groups which reflect historical “regional mandates” (see Figures 14 to 23). BBSRC is the main funder of combinables; horticulture; grassland and pasture; vegetables; sugar beet; and non-food crop research, whereas Scottish Government is the main funder of potatoes and fruits. Defra and the Scottish Government are the main funders of other horticulture (ornamentals, non-fruit trees etc.) and DFID is the main funder of “other” which includes crops that are not grown in the UK but are of importance in developing countries, for example cassava, millet, sorghum and chickpeas. Any budgetary adjustments to any single funder may therefore have disproportionate effects on these sectors.

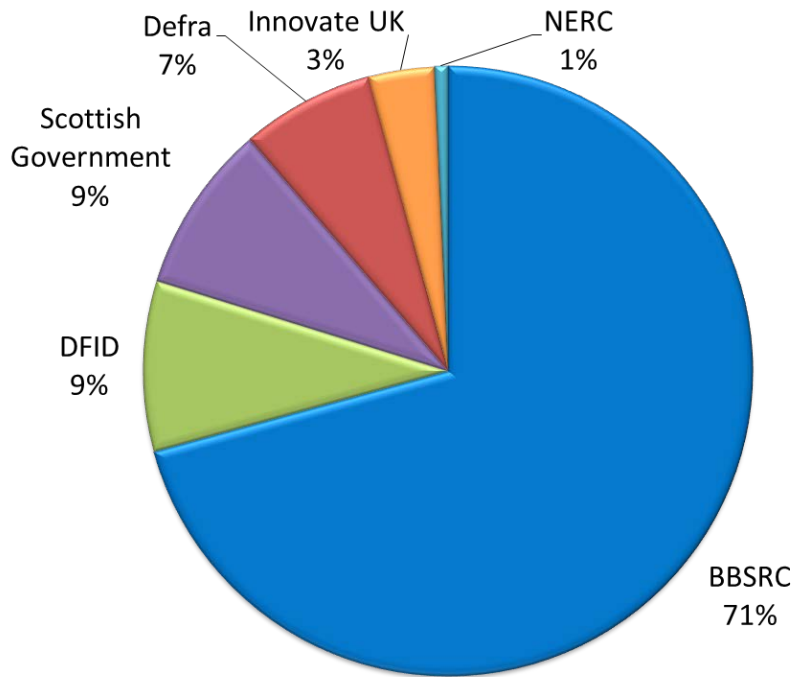


Figure 14: Agri-tech spend on the Crop and edible fungi sub-categories, broken down by public funder [figures include some overlapping spend]: Combinables

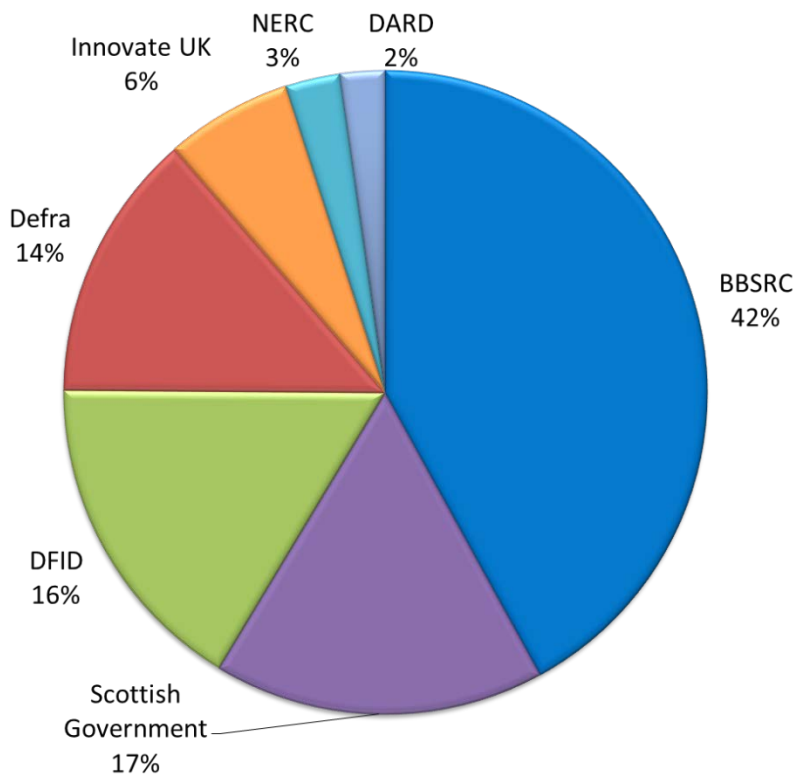


Figure 15: Agri-tech spend on the Crop and edible fungi sub-categories, broken down by public funder [figures include some overlapping spend]: Horticulture

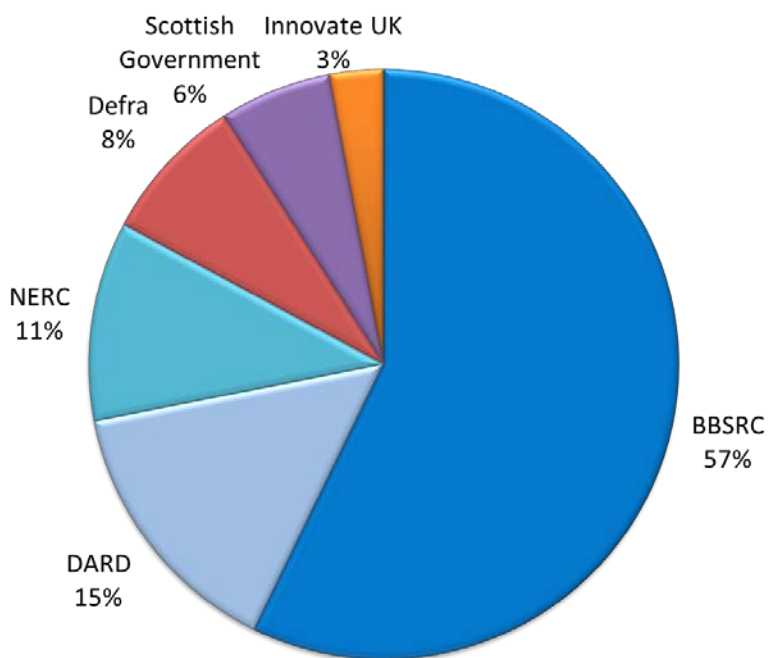


Figure 16: Agri-tech spend on the Crop and edible fungi sub-categories, broken down by public funder [figures include some overlapping spend]: Grassland and pasture

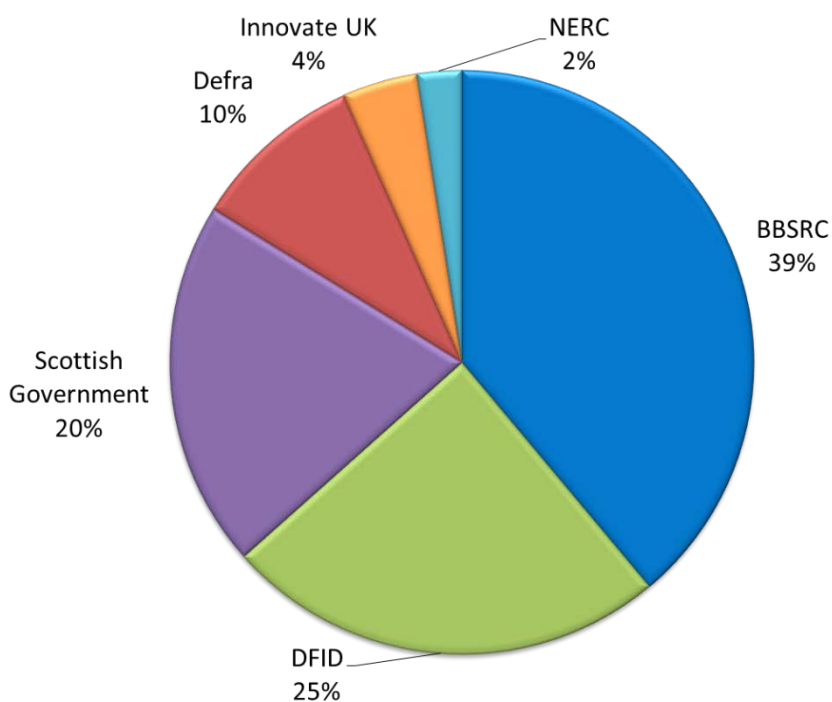


Figure 17: Agri-tech spend on the Crop and edible fungi sub-categories, broken down by public funder [figures include some overlapping spend]: Vegetables

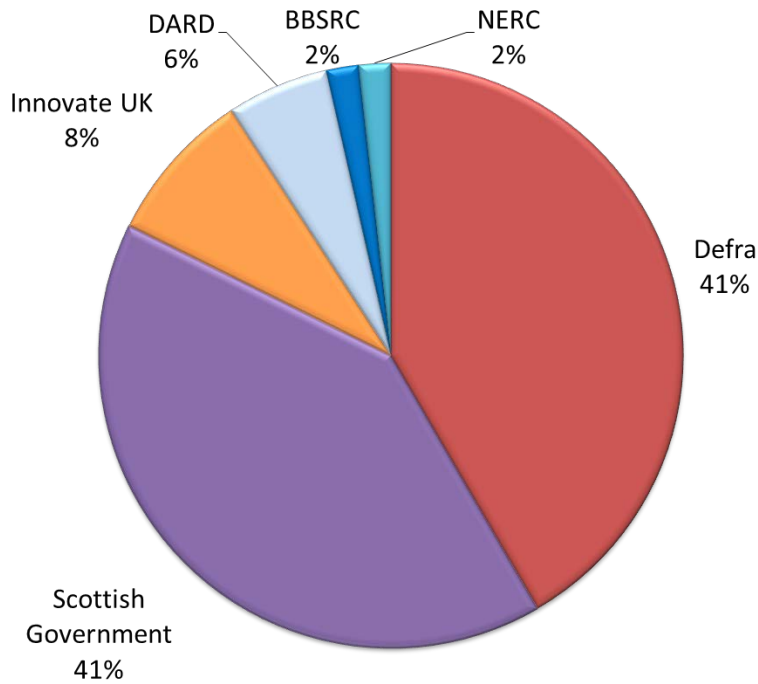


Figure 18: Agri-tech spend on the Crop and edible fungi sub-categories, broken down by public funder [figures include some overlapping spend]: Other horticulture

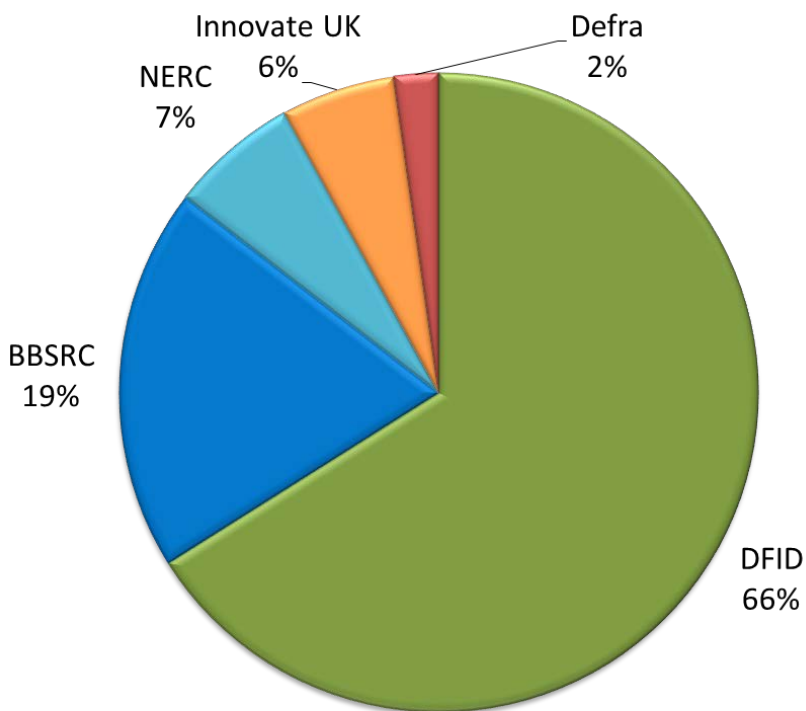


Figure 19: Agri-tech spend on the Crop and edible fungi sub-categories, broken down by public funder [figures include some overlapping spend]: Other

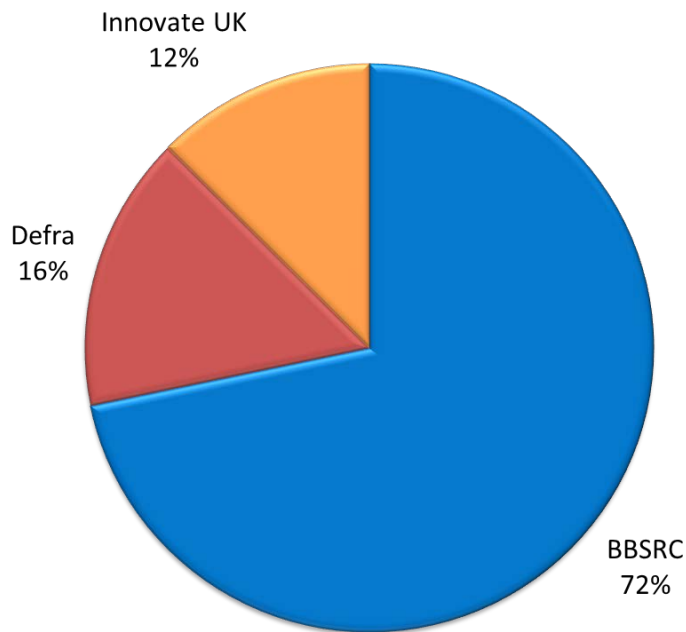


Figure 20: Agri-tech spend on the Crop and edible fungi sub-categories, broken down by public funder [figures include some overlapping spend]: Sugar beet

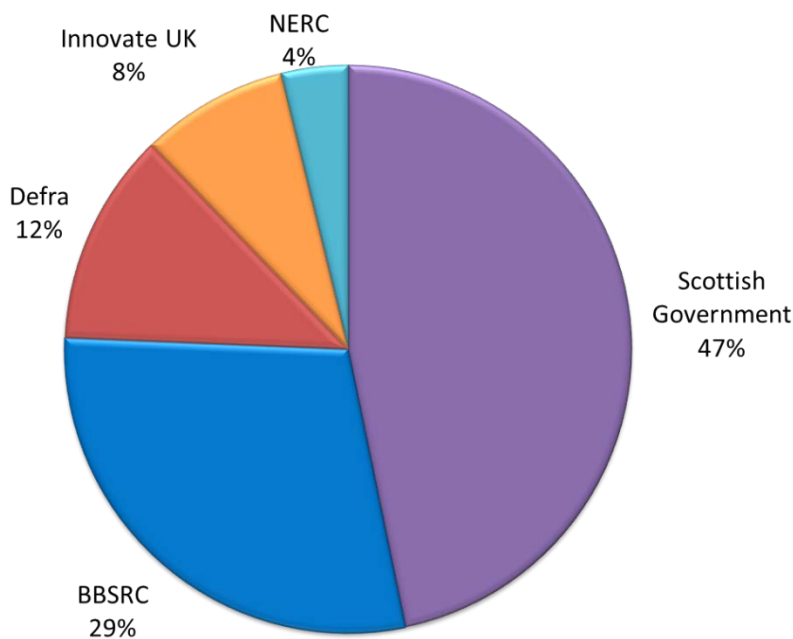


Figure 21: Agri-tech spend on the Crop and edible fungi sub-categories, broken down by public funder [figures include some overlapping spend]: Fruit

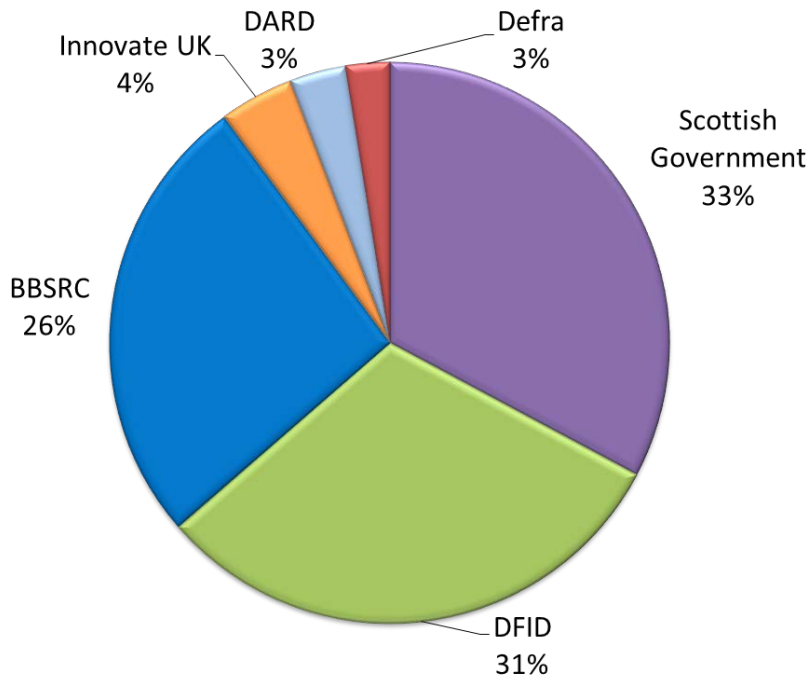


Figure 22: Agri-tech spend on the Crop and edible fungi sub-categories, broken down by public funder [figures include some overlapping spend]: Potatoes

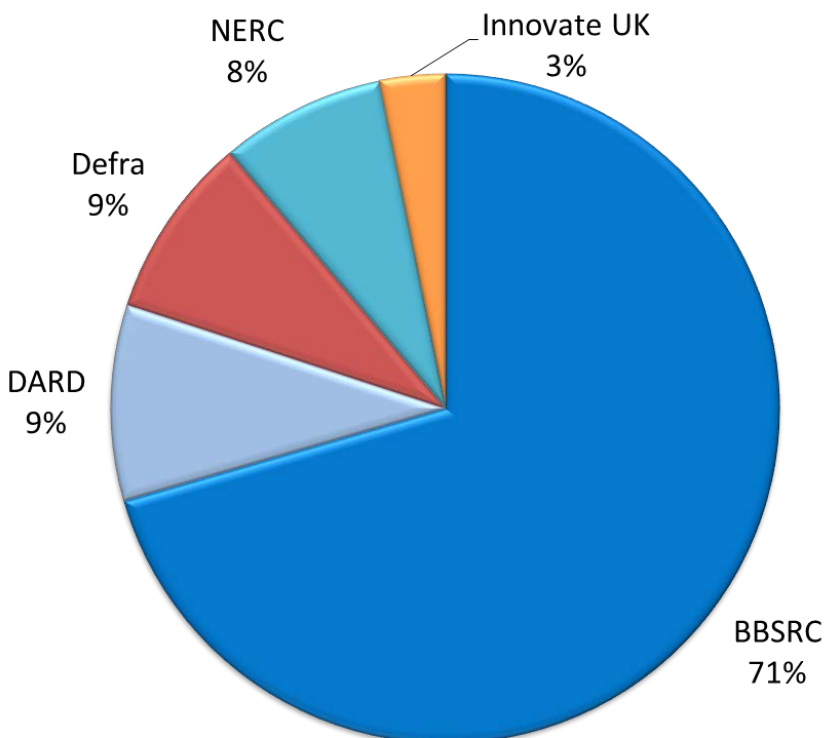


Figure 23: Agri-tech spend on the Crop and edible fungi sub-categories, broken down by public funder [figures include some overlapping spend]: Non-food crops

The majority of spend in this area is focused on aspects of production (67%) rather than pests, disease and weeds (see Figures 24 and 25). BBSRC is the dominant funder on non-disease research in crops (i.e. breeding for yield, quality, nutritional properties, shelf-life, sustainability etc.).

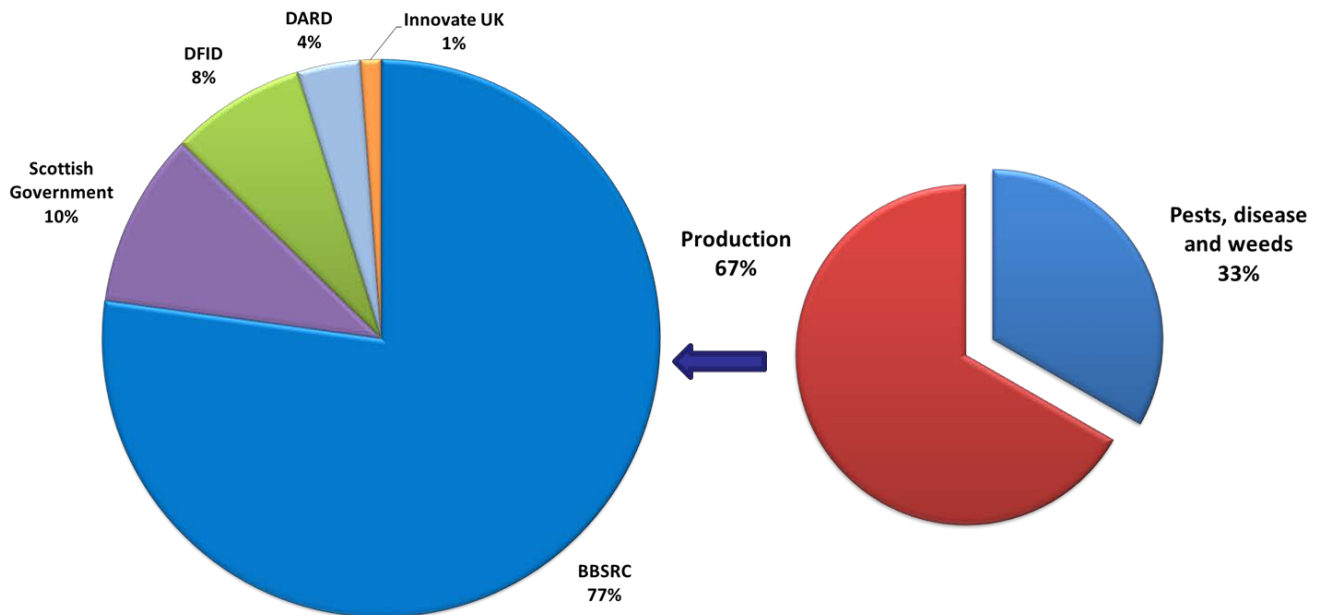


Figure 24: Spend by public funders in crop production versus pests, disease and weeds [figures include some overlapping spend]: Production

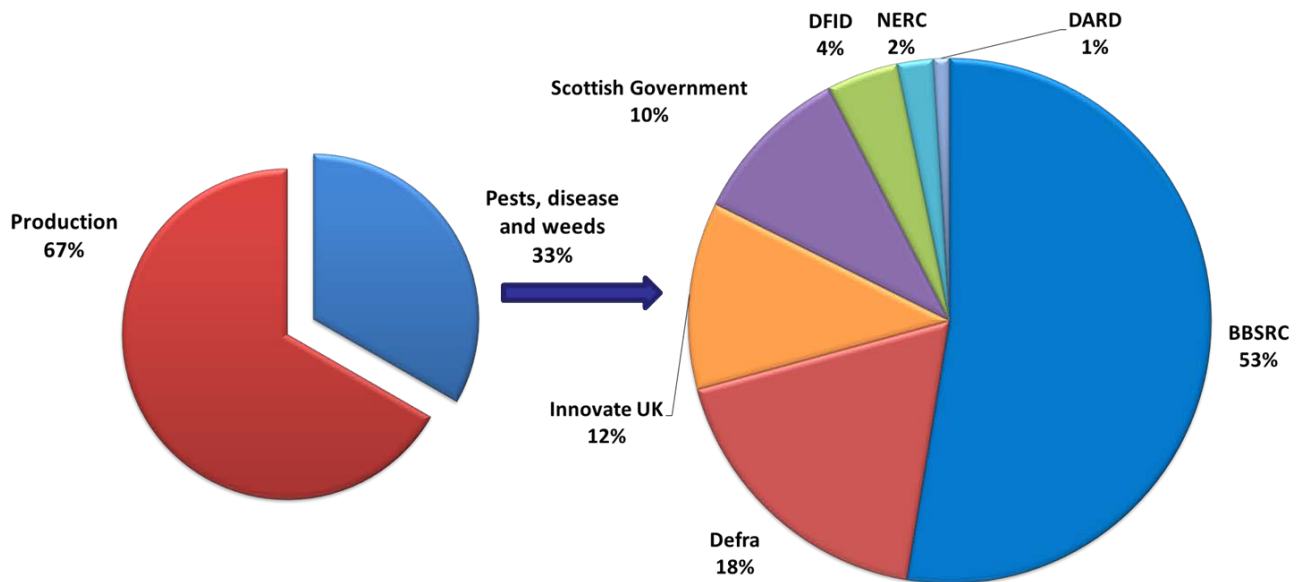


Figure 25: Spend by public funders in crop production versus pests, disease and weeds [figures include some overlapping spend]: Pest, disease and weeds

Private sector

In the private sector the split between crop production and pests, disease and weeds is complimentary to the public sector investments, with almost three times more investment in pest, disease and weed related research than in production (see Figure 26). 63% R&D was on combinable crops (£132.8M), of which more than 75% was on pests, disease and weeds.

For fruit, vegetables, potatoes and non-food crops, R&D spend was fairly evenly split between production and pest and disease research, with slightly more spent on the latter, however for some other sub-categories there was significant bias towards pests, disease and weeds R&D:

- Sugar beet received £9.5M, of which less than 20% was on production related research;
- £9.6M was spent on grassland R&D, two-thirds of this was focussed on pest and disease;
- other horticulture R&D totalled £4.1M, of which more than 75% was spent on research related to pests and diseases.

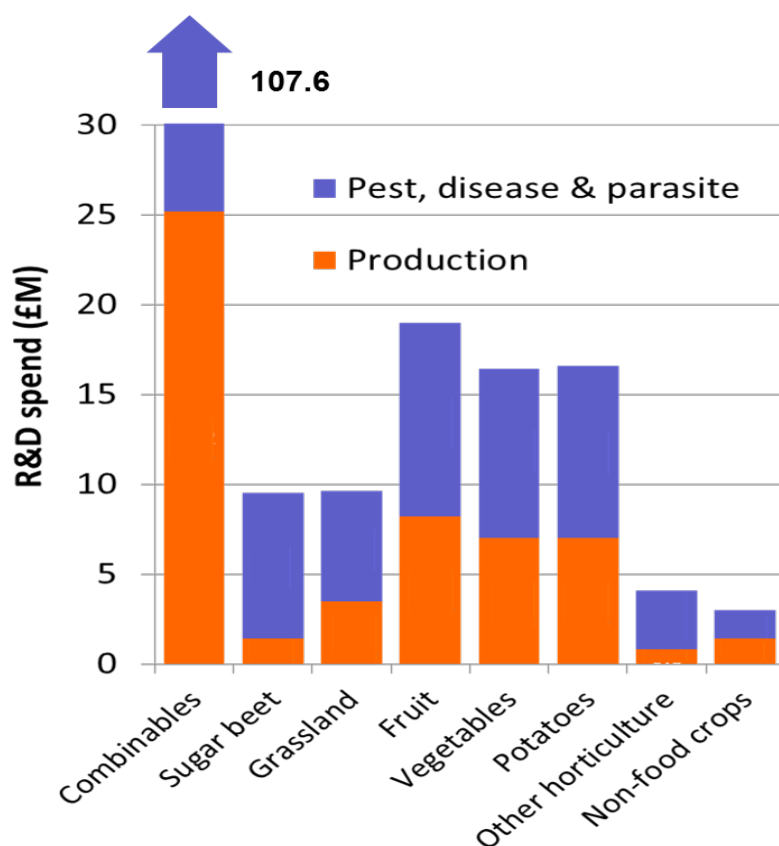


Figure 26: Private sector spend on each crop sub-category, broken down by production versus pests, disease and weeds related research

Livestock

The total public sector agri-tech spend for livestock related research was £75M. There is a proportionate division in spend between the four main UK livestock categories: large ruminant (£21.8M), small ruminant (£16.8M), poultry and pigs (see Figure 27). Aquaculture received the least funding in 2012/13 (£4.5M).

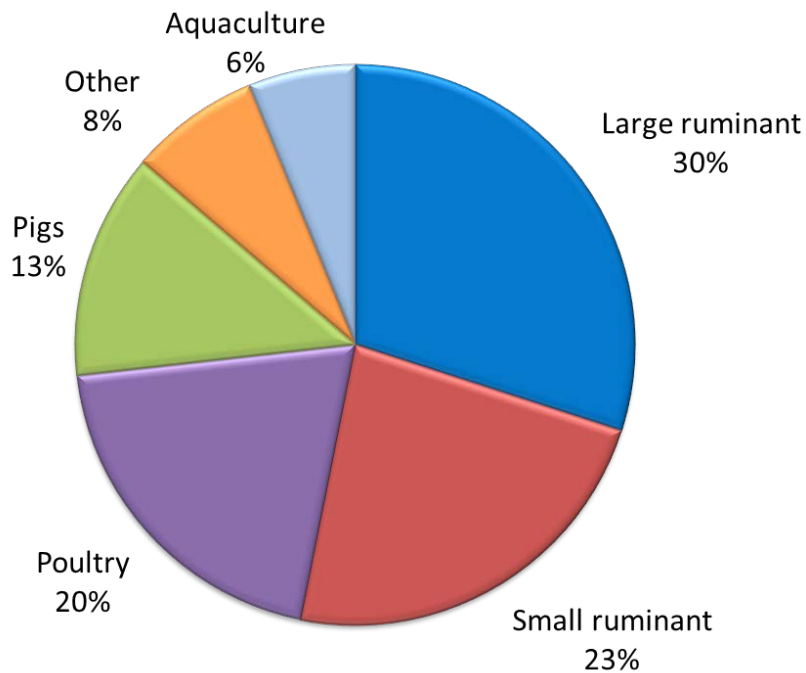


Figure 27: Public agri-tech spend for livestock related research broken down by sub-category

Overall BBSRC contributed the most to livestock research in 2012/13, followed by Defra, Scottish Government and DfID (see Figure 28). FSA, DECC and ESRC spent less than £100k in livestock research in 2012/13 so are not represented in Figure 28.

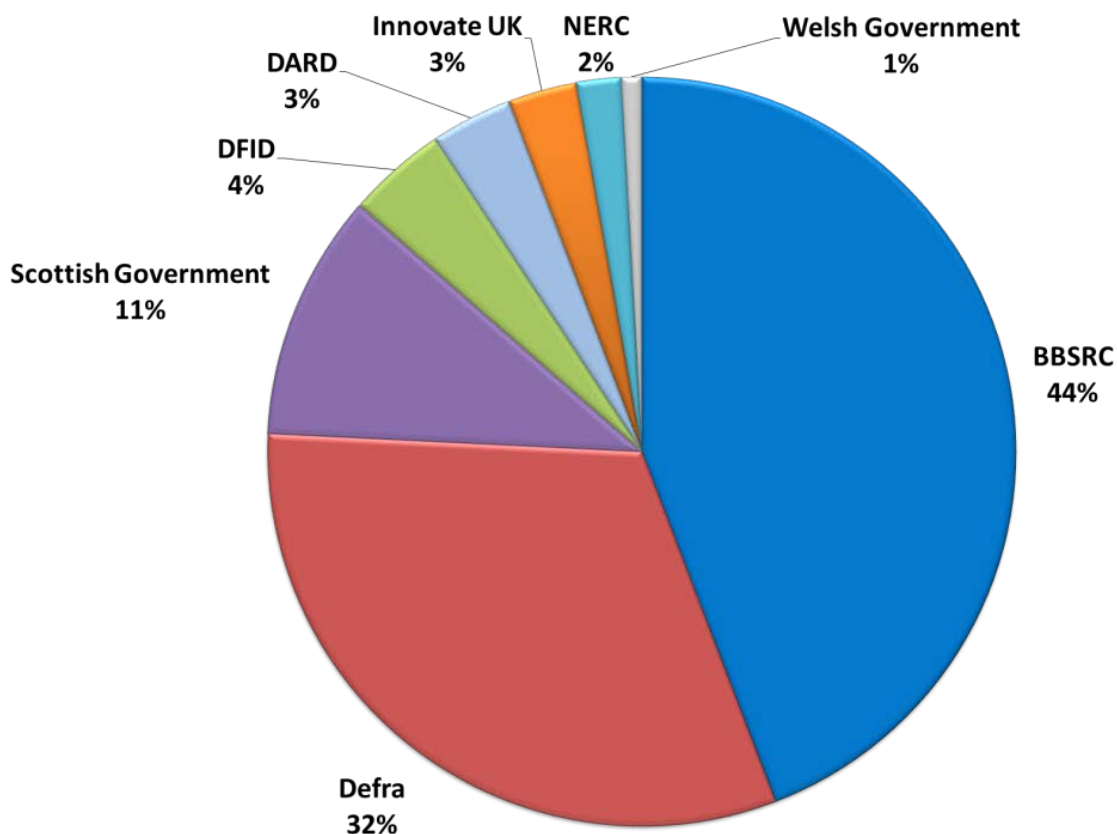


Figure 28: Public agri-tech spend for livestock related research broken down by funder [figures include some overlapping spend]

There are some significant differences between funders' investment in different livestock sub-sectors (see Figures 29 to 34). Defra are the largest funder of ruminants (mostly cattle and sheep) and aquaculture, whereas BBSRC funds almost 70% of the UK's poultry research and is the main funder of pigs and 'other' livestock (honey bees, horses, cross-cutting tools etc.).

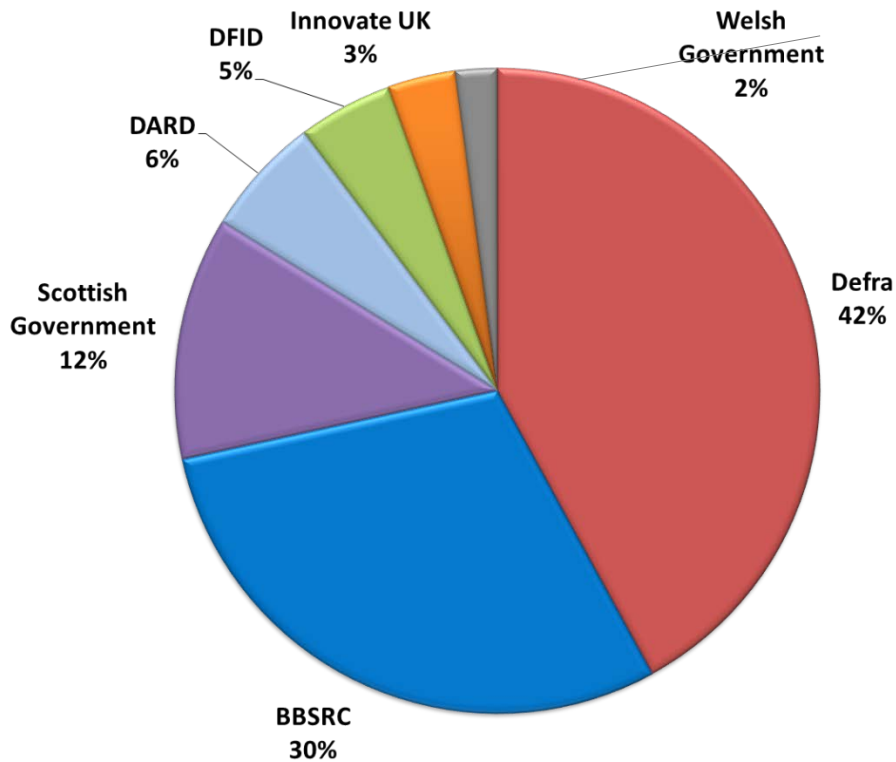


Figure 29: Agri-tech spend on the livestock sub-categories, broken down by public funder: Large Ruminants

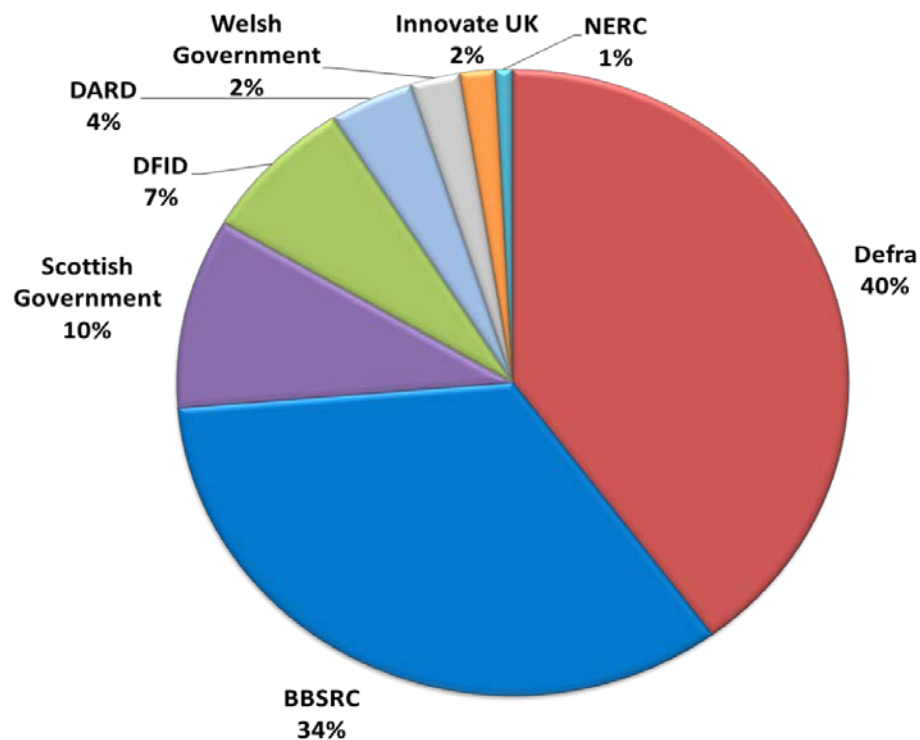


Figure 30: Agri-tech spend on the livestock sub-categories, broken down by public funder: Small Ruminants

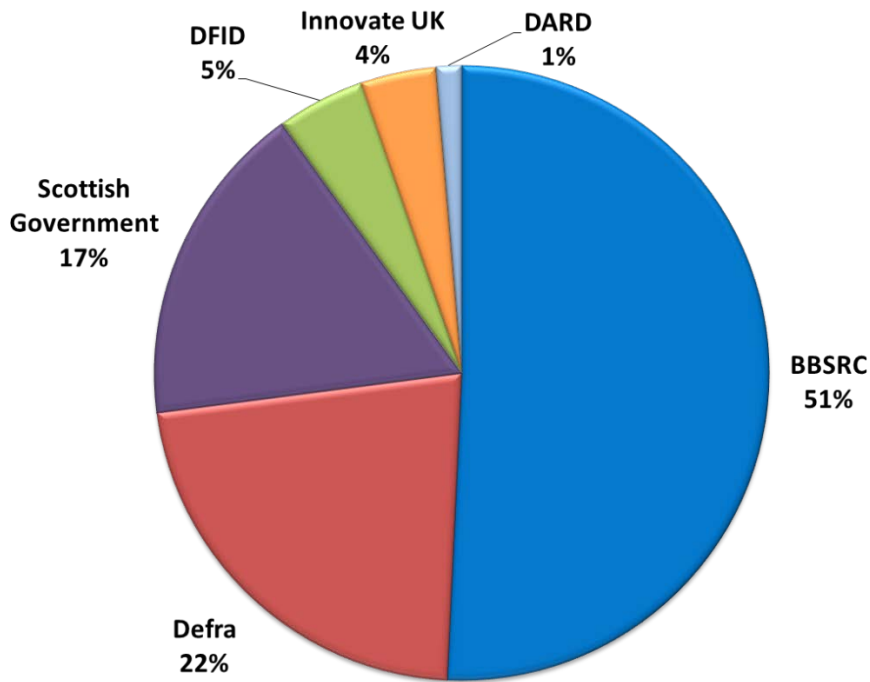


Figure 31: Agri-tech spend on the livestock sub-categories, broken down by public funder: Pigs

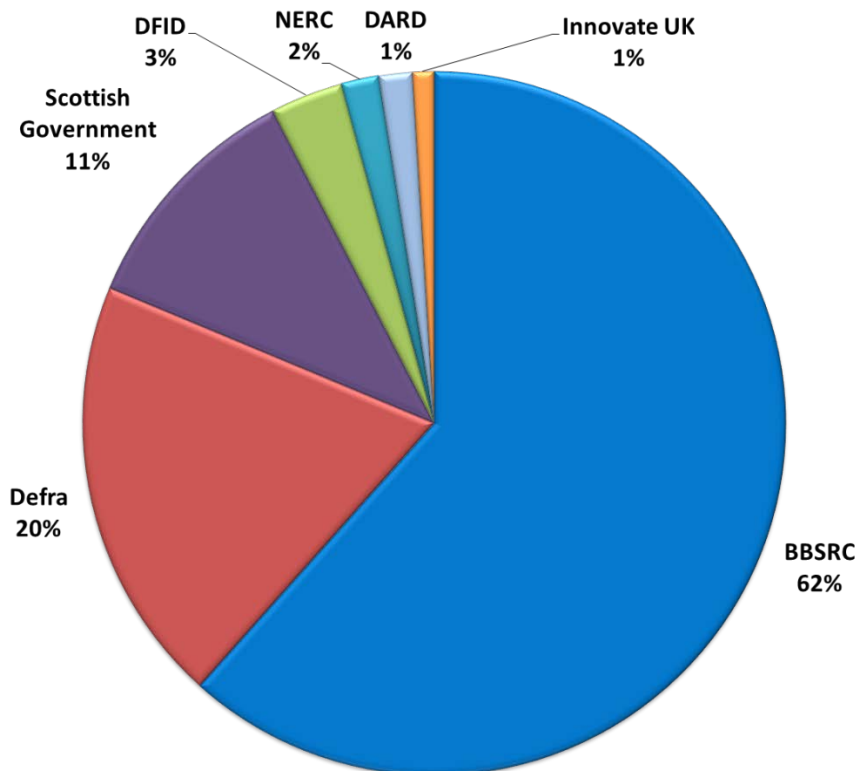


Figure 32: Agri-tech spend on the livestock sub-categories, broken down by public funder: Poultry

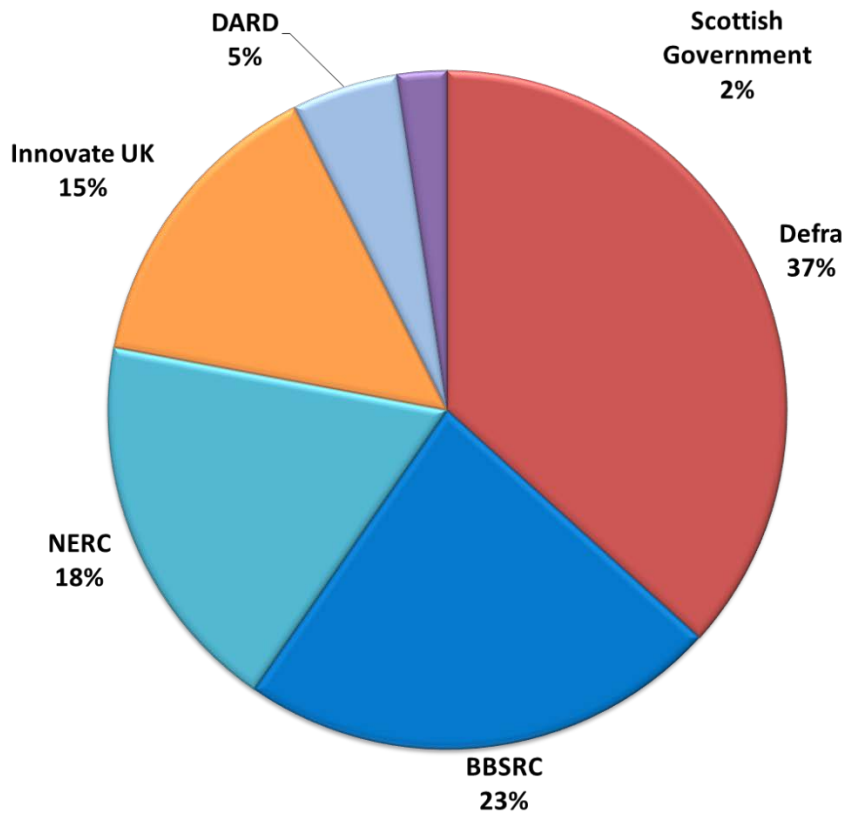


Figure 33: Agri-tech spend on the livestock sub-categories, broken down by public funder: Aquaculture

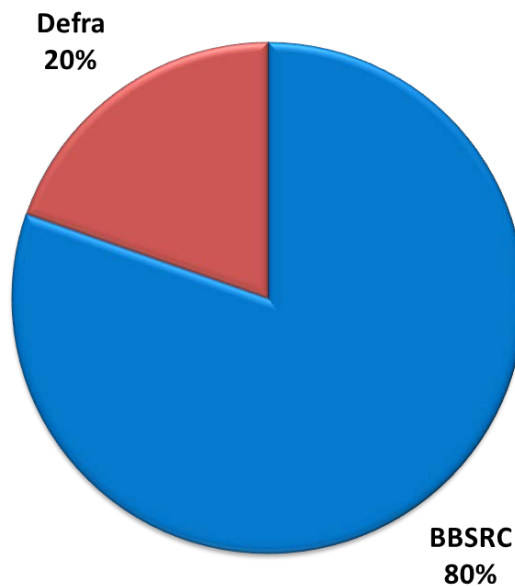


Figure 34: Agri-tech spend on the livestock sub-categories, broken down by public funder: Other

£75M of agri-tech research spend is on livestock with the majority investigating pest, disease and parasite (66%). BBSRC is the largest funder of pest, disease and parasite research followed by Defra, whereas Scottish Government is the largest funder of production research followed by BBSRC and Defra (see Figure 36). Unlike crops, the majority of livestock spend is on health related research (diseases and parasites); it is not possible to partition this between exotic and/or endemic disease problems with this data.

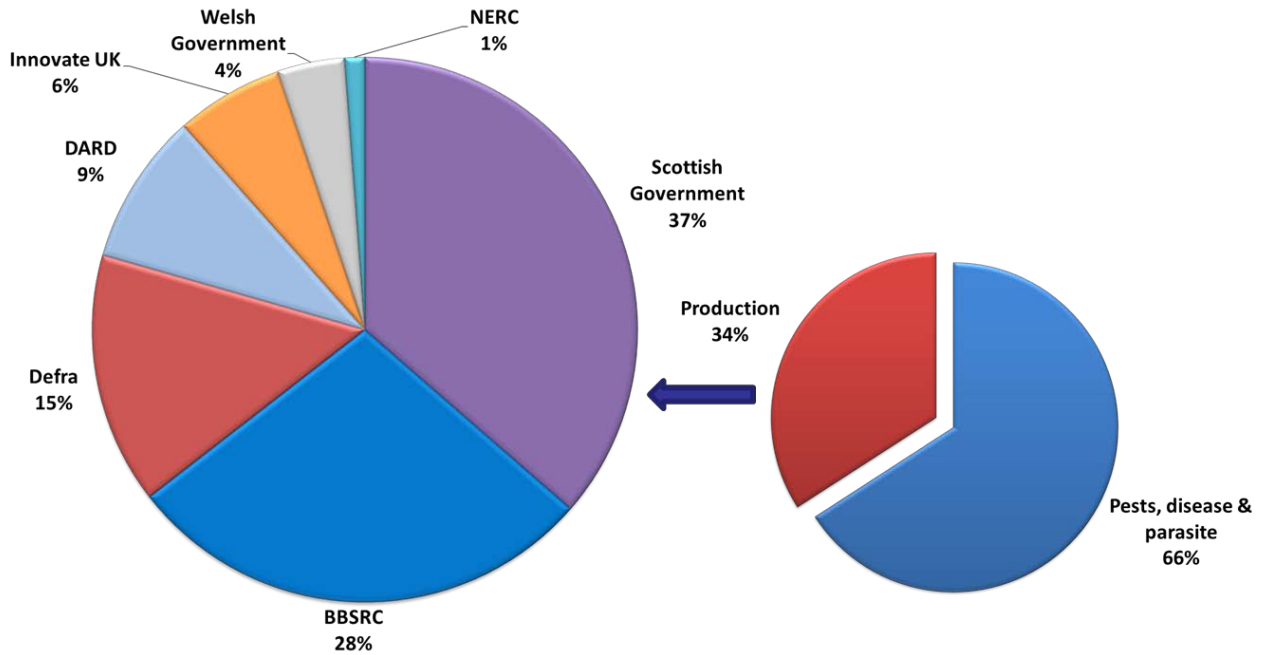


Figure 36: Spend by public funders on livestock production versus pests, disease and parasites [figures include some overlapping spend]: Production

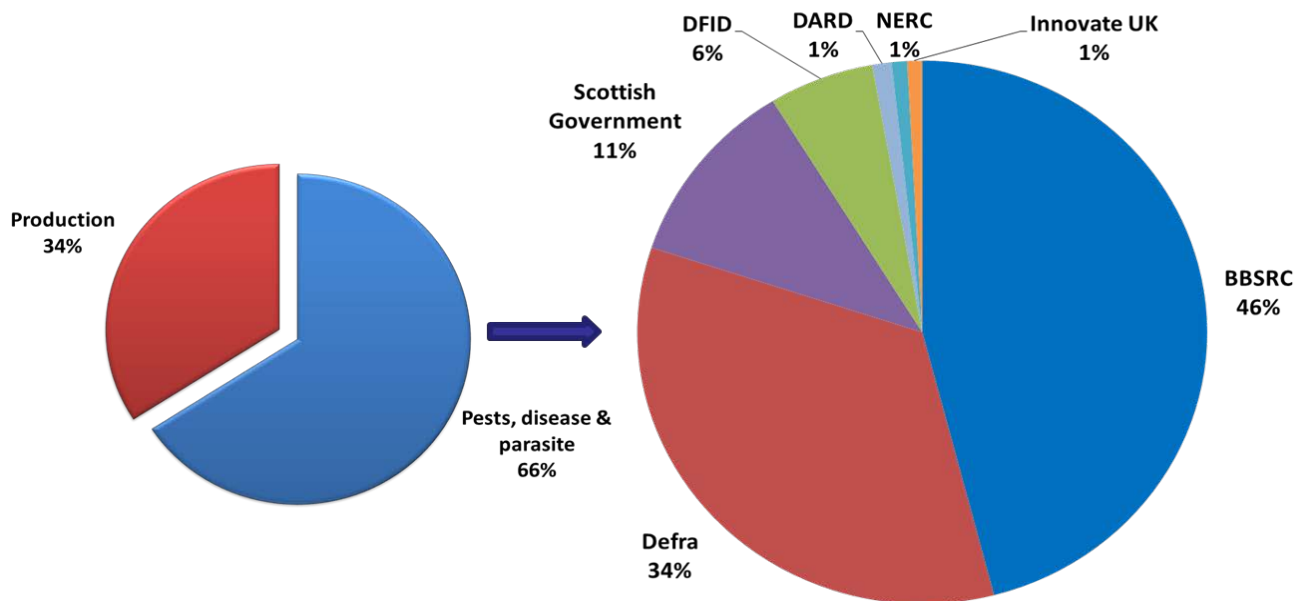


Figure 37: Spend by public funders on livestock production versus pests, disease and parasites [figures include some overlapping spend]

Environment, agri-systems and soils

There is a proportionate division of spend between the categories of agri-systems and environment-related research, but given the importance of soils this area is potentially under-represented (see Figures 38 and 39). Despite the substantial funding in the UK for meteorology and climate research little of this is being directly focused on supporting agriculture.

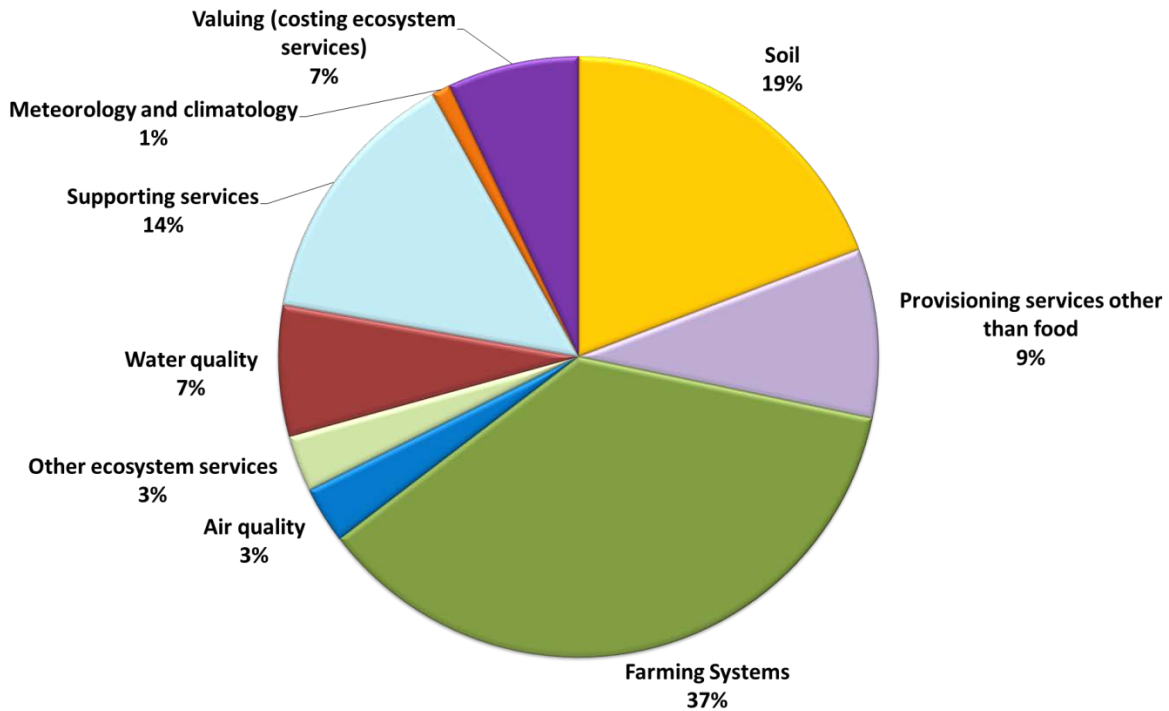


Figure 38: Private versus public funder agri-tech spend on environment, agri-systems and soils related research: Private (£8M)

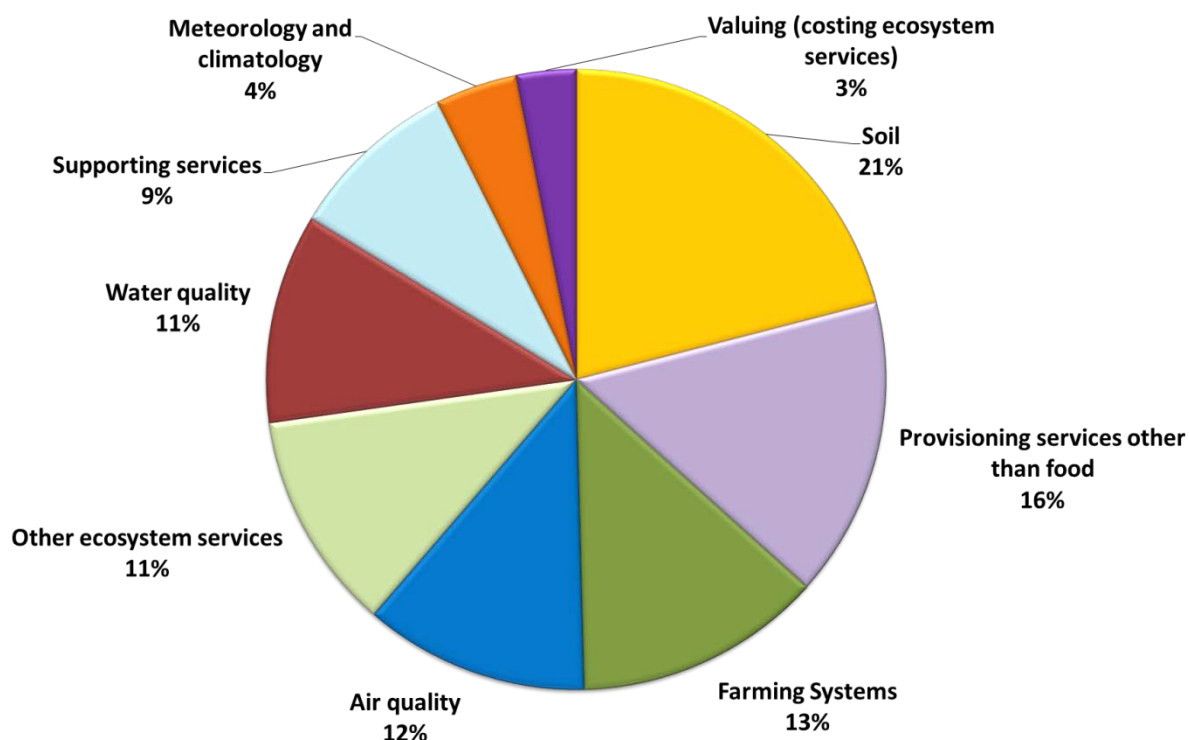


Figure 39: Private versus public funder agri-tech spend on environment, agri-systems and soils related research: Public (£41M)

The Scottish Government plays a leading role in this area reflecting their coordinated approach to agriculture, ecosystems and land-use. FSA, Welsh Government and ESRC spent less than £100k in Environment, agri-systems and soils research in 2012/13, therefore are not included in Figure 40. There are potential gains for the UK to link more of its environmental research to agricultural impacts and outcomes.

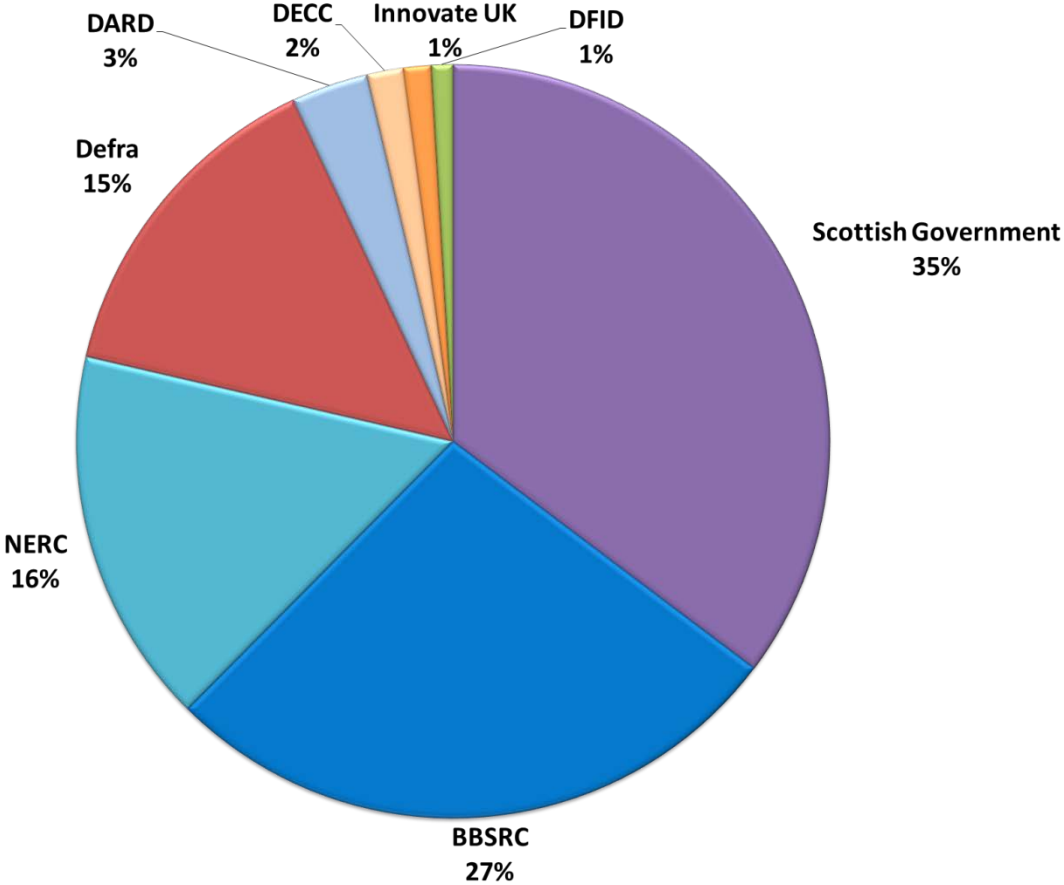


Figure 40: Public agri-tech spend for Environment, agri-systems and soils related research broken down by funder (£41M)

Engineering and non-Life Sciences

The overall levels of spend in this area are significantly lower than other research sectors, totalling £6.5M across public sector funders. Given the essential contribution of precision agri-engineering to all sectors of UK agriculture, the levels of spend are proportionately too low. This may be partially mitigated by a recent Innovate UK and BBSRC call, and commercial sector investment.

When broken down into sub-categories (see Figure 41), anaerobic digestion (AD) and energy generation receives the most public funding (£2.6M) followed by agri-engineering (£1.5M).

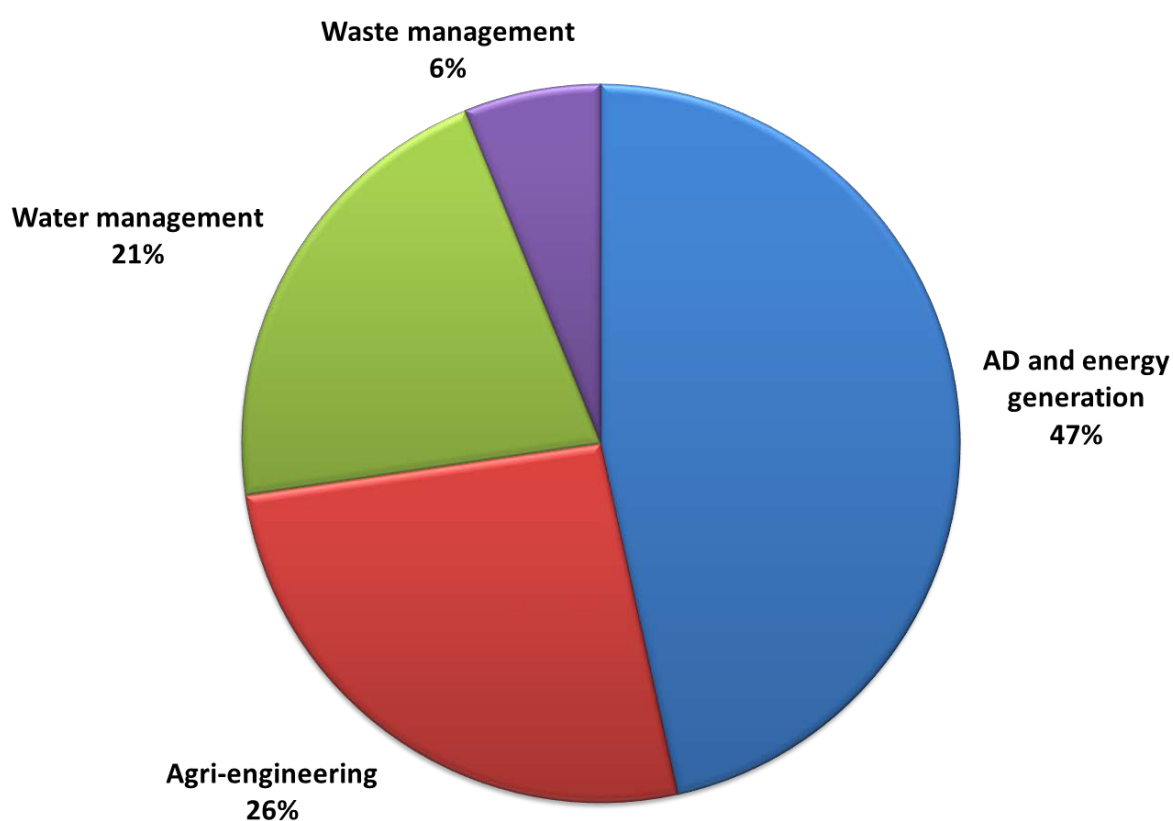


Figure 41: Public agri-tech spend for Engineering and on-life sciences related research broken down by sub-category

Of the public funders BBSRC contributed the most to Engineering and non-life sciences in 2012/13 followed by Defra and Innovate UK. Scottish Government and DFID spend little in this area in comparison to their role in agri-tech overall (see Figure 42).

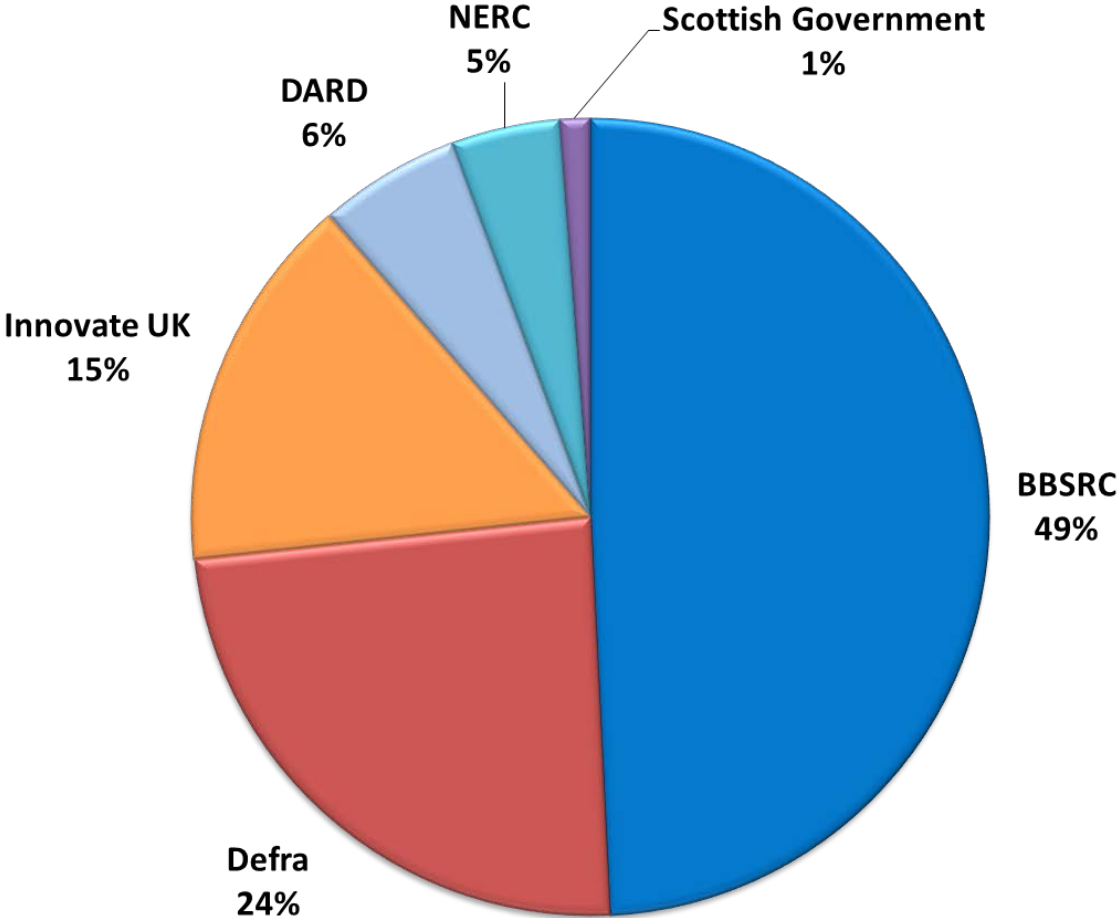


Figure 42: Public agri-tech spend for Engineering and on-life sciences related research broken down by funder

Economics and Social Science

Spend on economics and social science totalled £6.5M in 2012/13. ESRC contributed the most followed by Defra and Scottish Government (see Figure 43). BBSRC, FSA, Welsh Government, DECC, DFID, and Innovate UK spent zero in Economics and Social Science directly relevant to agri-tech research in 2012/13, therefore are not included in Figure 43.

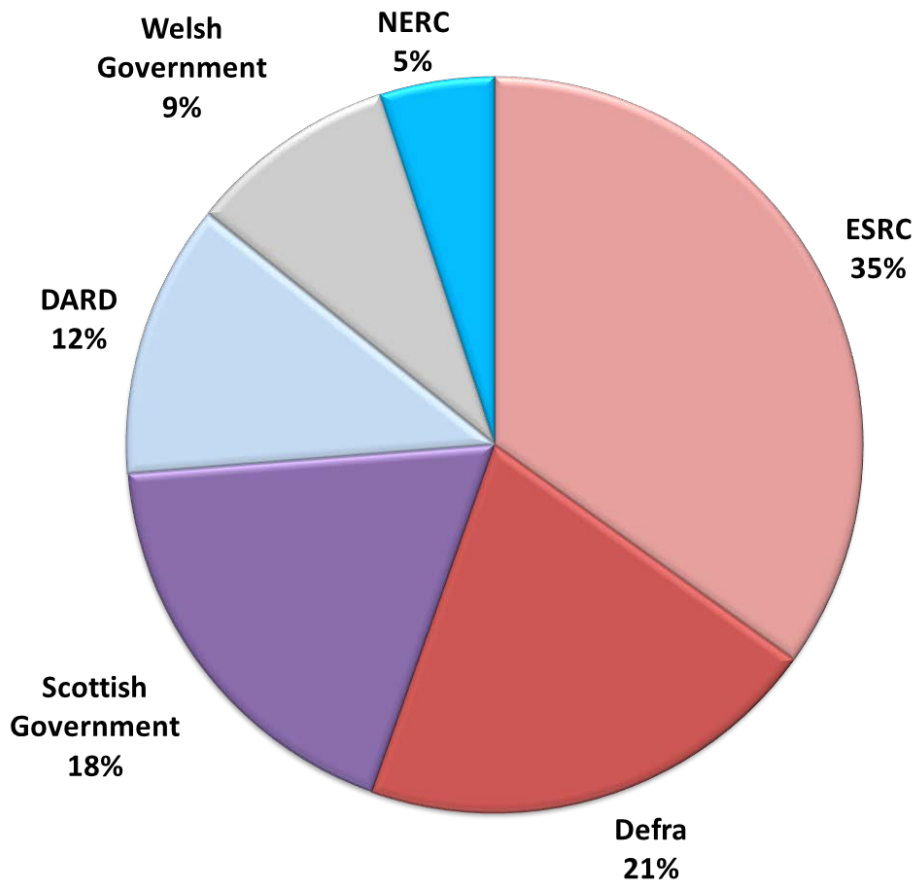


Figure 43: Public sector agri-tech spend for Economics and Social science related research broken down by funder

Private sector spend on R&D in this space was £0.3M however private sector stakeholders will have engaged in additional analysis of economics and customer attitudes but this may have been classed internally as a business expense and not R&D.

Studentships

Public funding of studentships is primarily done through the Research Councils (BBSRC and NERC). In 2012/13 the highest number of studentships (108) involved Environment, agri-systems and soil followed by Crops and edible fungi (95). Engineering and non-life sciences received the lowest number of studentships (13). No agri-tech studentships identified in this exercise involved Economics and Social Science (see Figure 44).

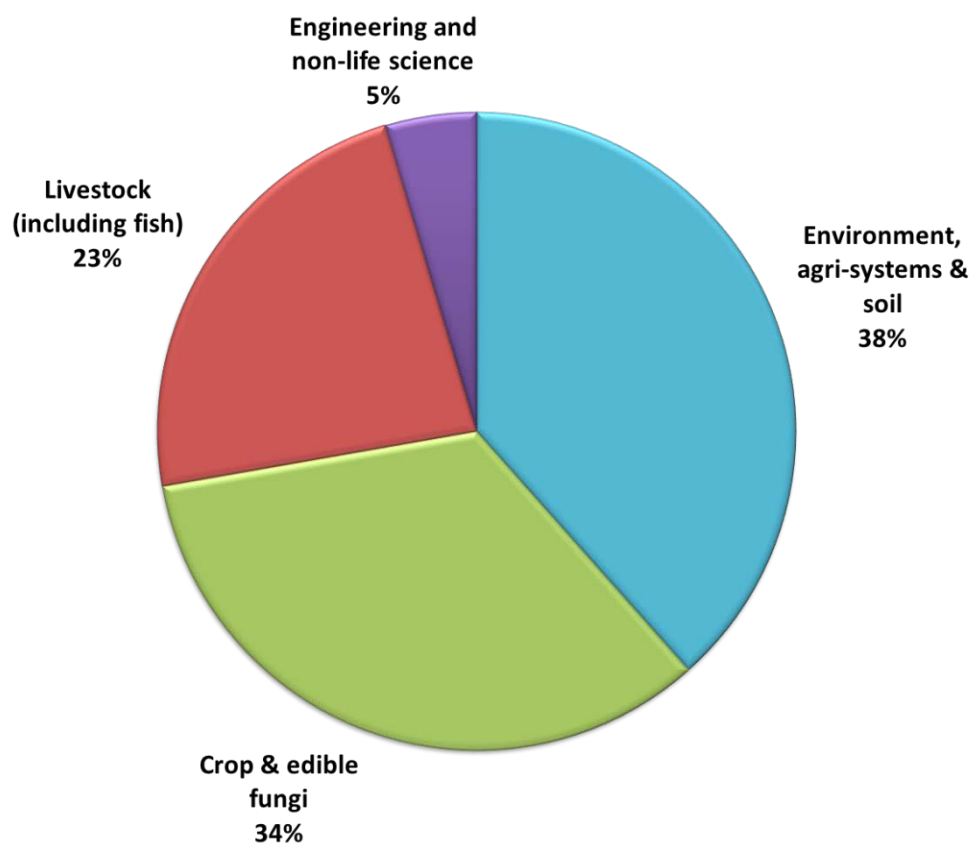


Figure 44: Public sector agri-tech related studentships broken down by sub-category

There is a significant discrepancy between the funding of studentships and research spend. The studentship numbers are significantly skewed by a large investment from NERC in the agri-environment area. This should help to stimulate future innovation in development of environmentally sustainable agricultural products and practices.

Frascati coding

Frascati coding (5) is a methodology used for coding the type of R&D, managed by the OECD (6), and is used by the UK Office of National Statistics (7) to classify UK R&D funding. What was clear from the available data is that the public sector are appropriately investing more in the basic and strategic research underpinning more applied investments by the industry. The crop industry invests in more basic research than other sectors (see Figures 45 and 46). Please note that the public data does not contain studentships due to the way studentships are embedded in research grants.

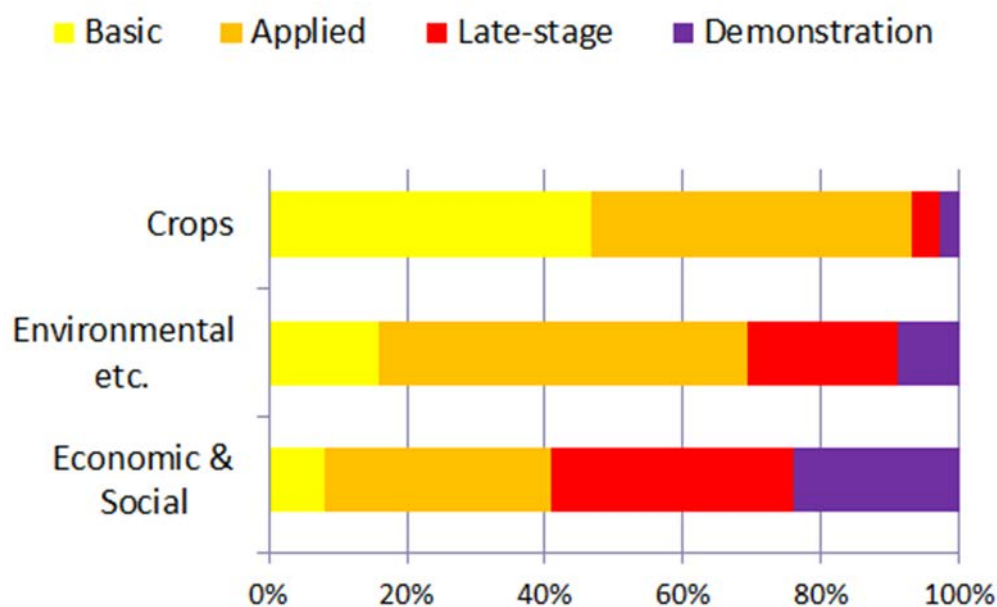


Figure 45: Private versus public research classification comparison: Private

(5) http://www.stis.belspo.be/docs/pdf/Frascati2002_finalversion_e.pdf

(6) <http://www.oecd.org/>

(7) <https://www.ons.gov.uk/>

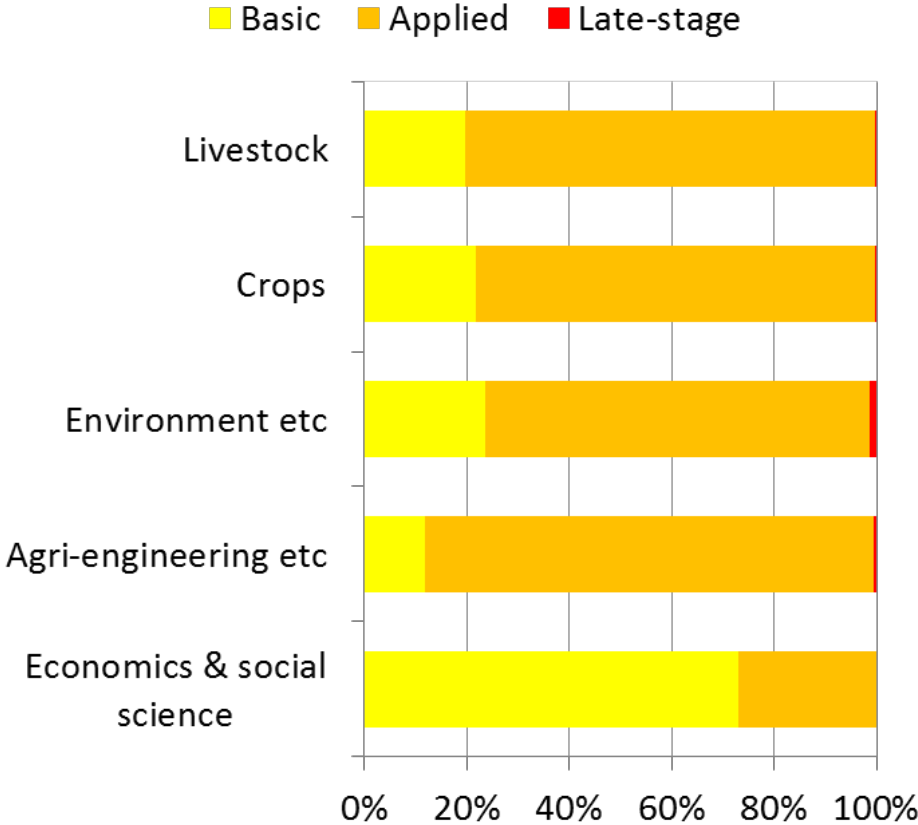


Figure 46: Private versus public research classification comparison: Public

Institutional data

105 institutions in total received public agri-tech investment in 2012/13. Public investment is focused in a number of key institutions but there is a breadth of research suppliers overall (see Figure 47). Eight institutions stand out as receiving the highest number of grants, seven of which are government institutes or those in receipt of strategic core funding from public funders:

- John Innes Centre
- The Pirbright Institute
- University of Edinburgh
- Rothamsted Research
- Agri Food and Biosciences Institute
- University of Nottingham
- AHVLA (which has recently merged with FERA to become APHA)
- NERC Centre for Ecology and Hydrology

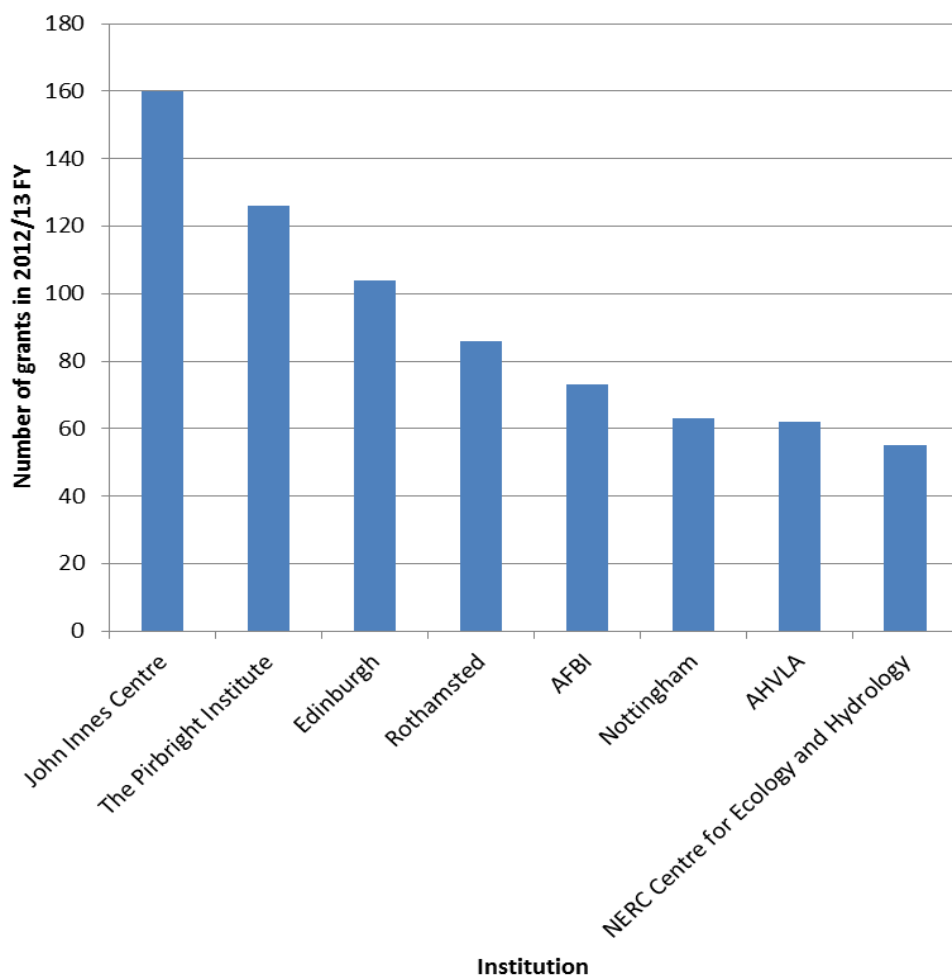


Figure 47: Main institutions in receipt of investment in 2012/13, by number of public sector grants per institution: Top 8 institutions

Following that the next twenty-two institutions receive the similar amount of grants (see figure 48):

- University of Cambridge
- University of Warwick
- University of East Anglia
- University of York
- Aber University
- University of Glasgow
- University of Exeter
- University of Bristol

- University of Reading
- Lancaster University
- The James Hutton Institute
- University of Leeds
- University of Aberdeen
- SRUC
- Imperial College London
- Queen's University of Belfast
- University of Liverpool
- University of Oxford
- FERA
- University of Sheffield
- NIAB
- Moredun Research Institute

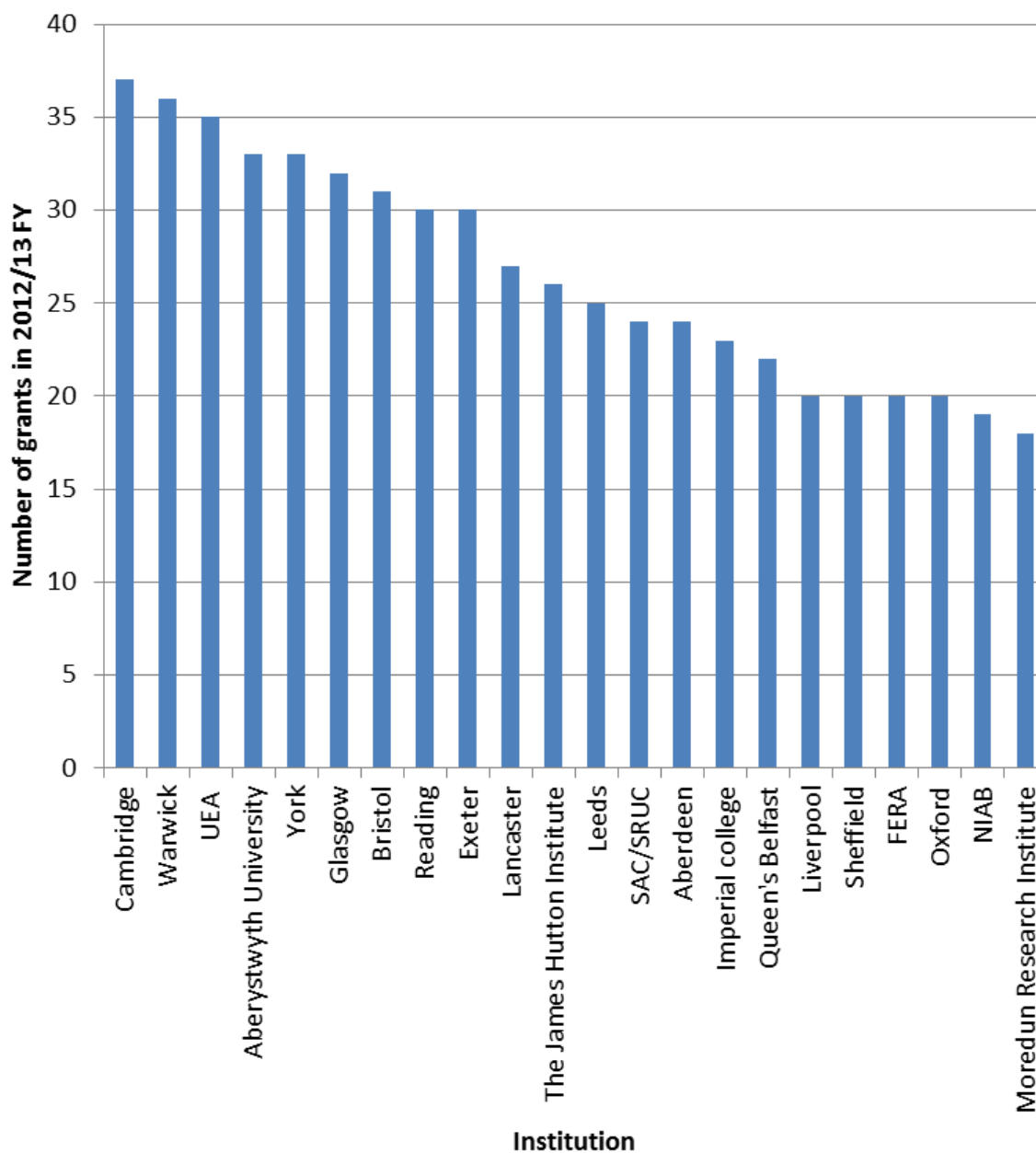


Figure 48: Main institutions in receipt of investment in 2012/13, by number of public sector grants per institution: 22 institutions receiving similar number of grants

Similarly private investment is across a breadth of research suppliers, with 38% of companies doing all of their R&D themselves; 39% contracting out up to half of their R&D; and 22% contracting out more than half of their R&D. Of those companies contracting out their research, 34% contracted more than 75% of their R&D to UK organisations. A significant proportion of companies (50%) contracted less than 25% of their R&D to UK research organisations.

In total over 112 research organisations were used by the private sector for agri-tech R&D in 2012/13. Of these a sub-set were contracted by multiple companies:

- 41 were used by 2+ companies
- 14 were used by 4+ companies
- 6 were used by 8+ companies

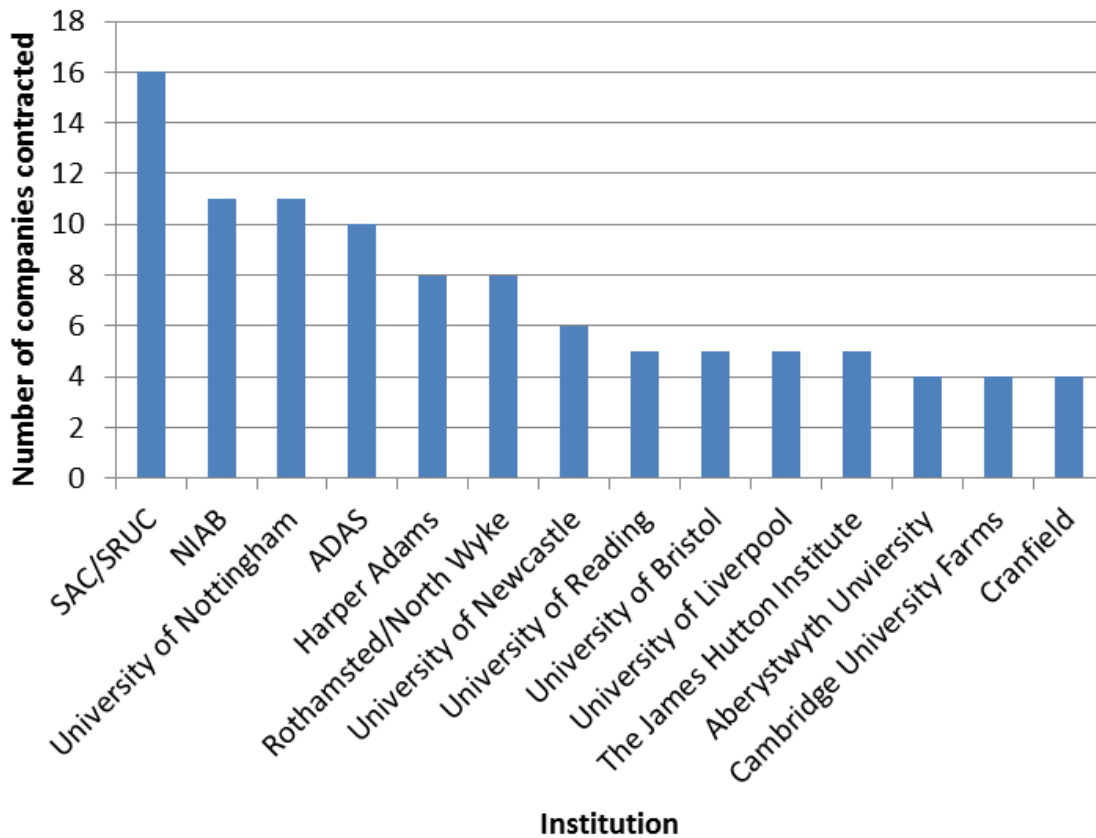


Figure 49: UK research organisations receiving agri-tech R&D contracts from the private sector: organisations contracted by 4+ companies

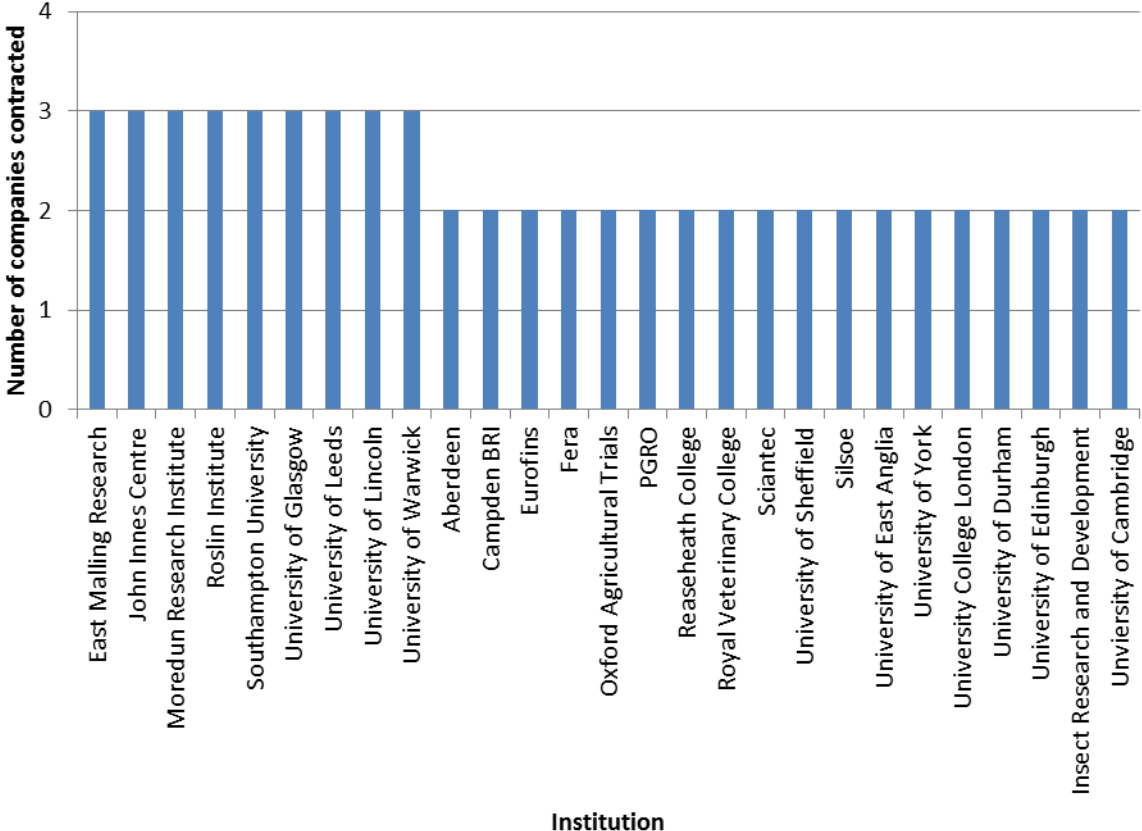


Figure 50: UK research organisations receiving agri-tech R&D contracts from the private sector: organisations contracted 2-3 companies

From the data it is clear that some UK institutions specialise more towards more public funded early stage research, others more to private sector/ translational work, and some bridge both areas. This breadth of research supply options ensures a healthy competitive research base and a functional translation pipeline.

Acronyms

AD	Anaerobic Digestion
BBSRC	Biotechnology and Biological Sciences Research Council
BIS	Department of Business Innovation and Skills
DARD	Department of Agriculture and Rural Development – Northern Ireland
DECC	Department of Energy and Climate Change
DEFRA	Department of the Environment, Food and Rural Affairs
DFID	Department for International Development
DH	Department of Health
ESRC	Economic and Social Research Council
FSA	Food Standards Agency
FY	Financial Year
LC	Leadership Council
MRC	Medical Research Council
NERC	Natural Environment Research Council
ODA	Official Development Assistance
OECD	Organisation for Economic Co-operation and Development
R&D	Research and Development
UKTI	UK Trade and Investment



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