64th Oxford Farming Conference

The Oxford Farming Conference Research in association with Volac and BBSRC: Agricultural research needs and priorities: survey findings from the food and farming industry

volac

Facilitator
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Introduction

The *Oxford Farming Conference*, in association with dairy nutrition company *Volac* and the *Biotechnology and Biological Sciences Research Council*, has commissioned leading market research specialists *National Farm Research Unit* and *IGD* to gather the views of UK farmers the UK food industry on the future needs of agricultural science.

This includes:

- **An estimate of current spending on agricultural science R&D**
- **Results of NFRU farmer science survey**
- **Results of IGD food industry science survey**

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Current UK spending on agricultural science

Organisation	R&D spend (£)
Government	**£264 million** (Potential total for 2010: £280 million inc Tech Strat Board)
Defra Scottish Government Northern Ireland BBSRC Funding Council support for universities *Technology strategy board (new for 2010)*	£65 million £30 million £7 million Ca £150 million £12 million *£16 million (£80 million over five years)*
Trade	**£56 million+**
UK Agricultural Supply Industry UK plant breeders	£45 million+ £10-£12 million
Farmers	**£29 million**
AHDB levy payer funding Farmer membership organisations Agricultural charities	£22.6 million Ca £3 million Ca £3.5 million

Predicted total UK agricultural R&D science spend in 2010 = £365 million
(based on previous spend and new Technology Strategy Board funds)

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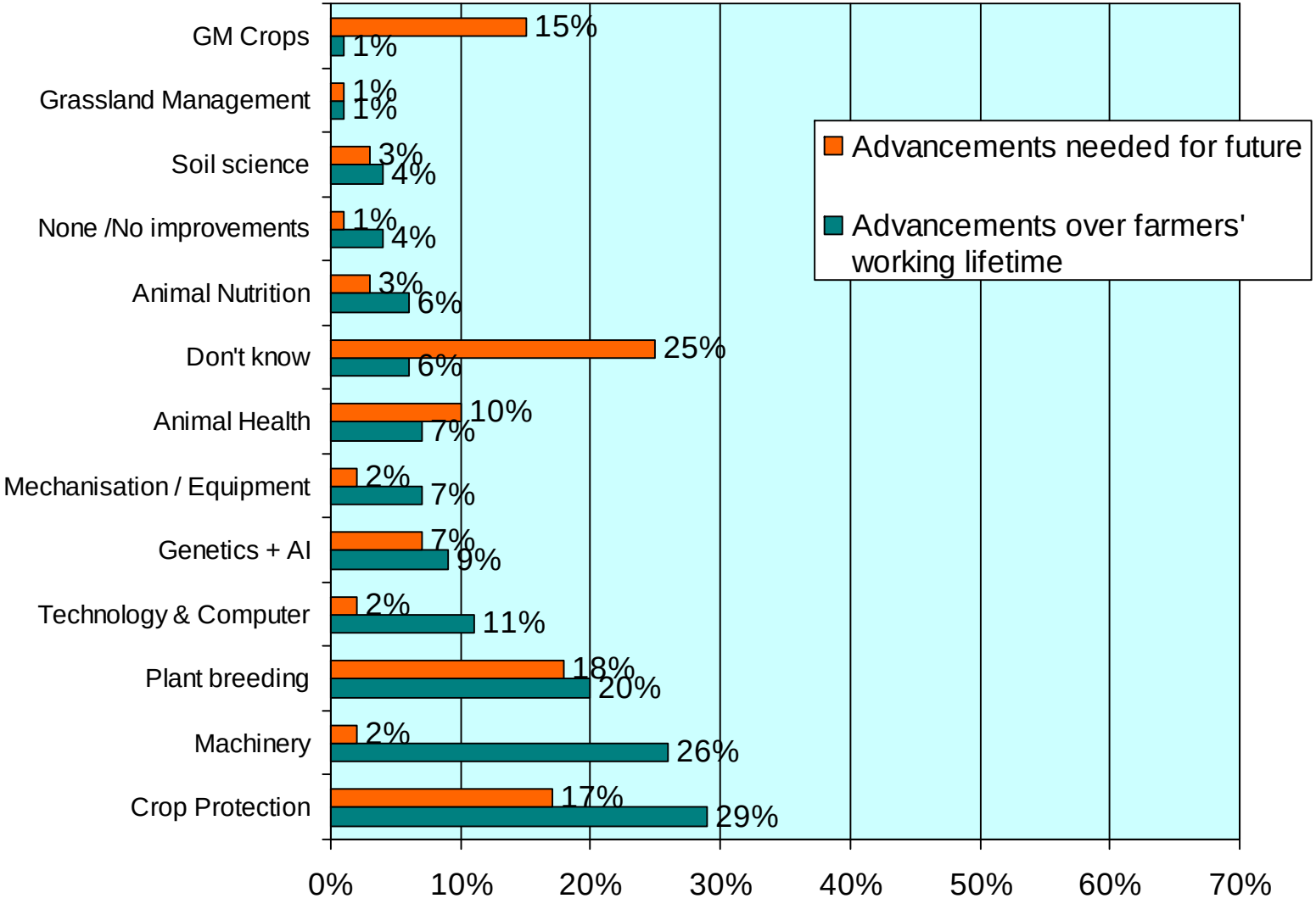
NFRU farmer survey

The National Farm Research Unit conducted telephone interviews with 600 UK farmers across the sectors during October 2009. Questions were open (not leading) and spontaneous answers were recorded

- **382 grew combinable crops**
- **74 grew horticultural crops**
- **79 grew potatoes**
- **139 produced milk**
- **276 produced beef**
- **205 produced sheep**
- **64 produced pigs**
- **38 produced poultry**

Crop protection is the most significant past achievement, but plant breeding is a future priority



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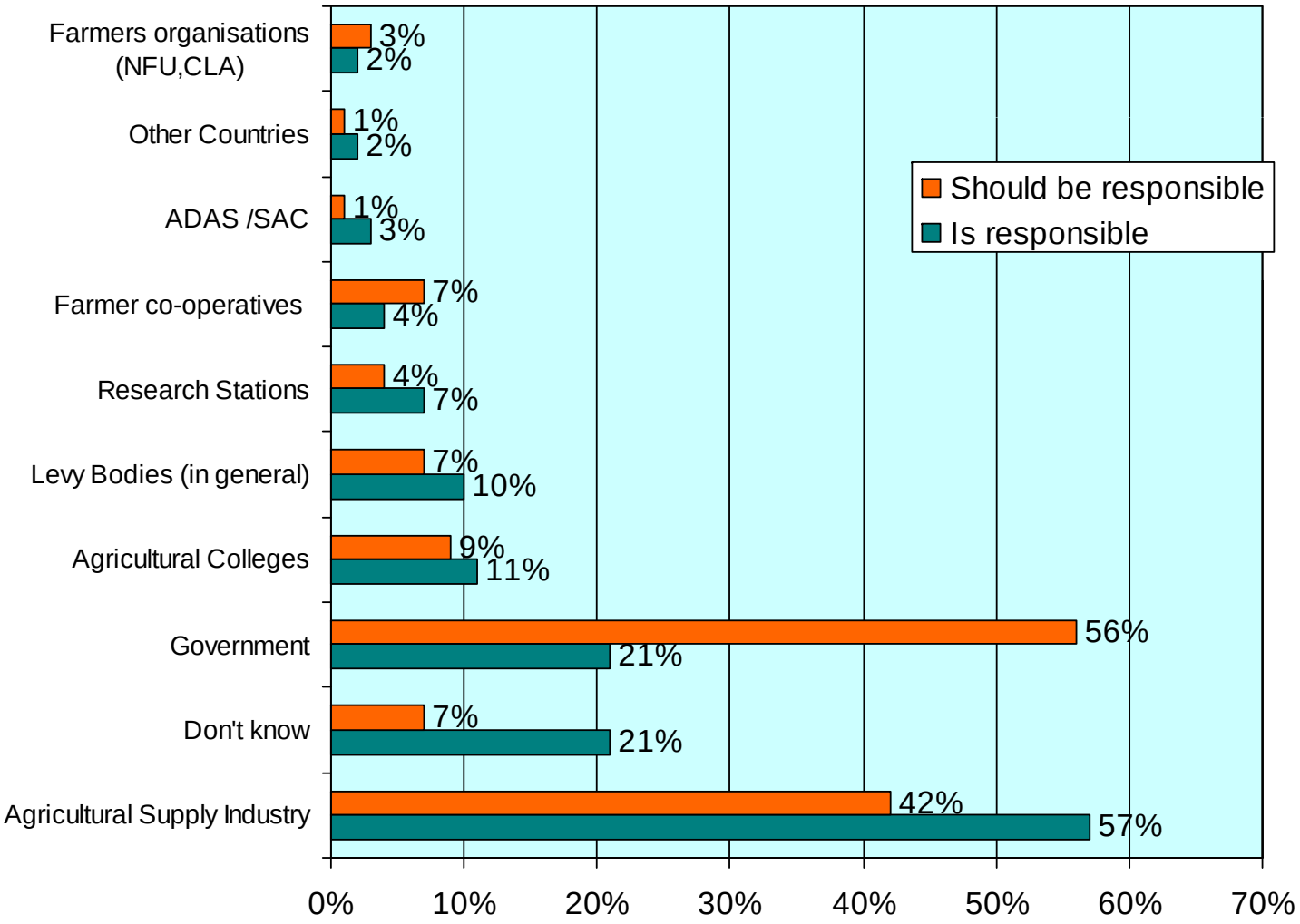
Research by The National Farm Research Unit

Farmers perceive a gap between who is responsible and who should be responsible for agricultural scientific research



Base : 600 farmers and growers

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Research by The National Farm Research Unit

Key points

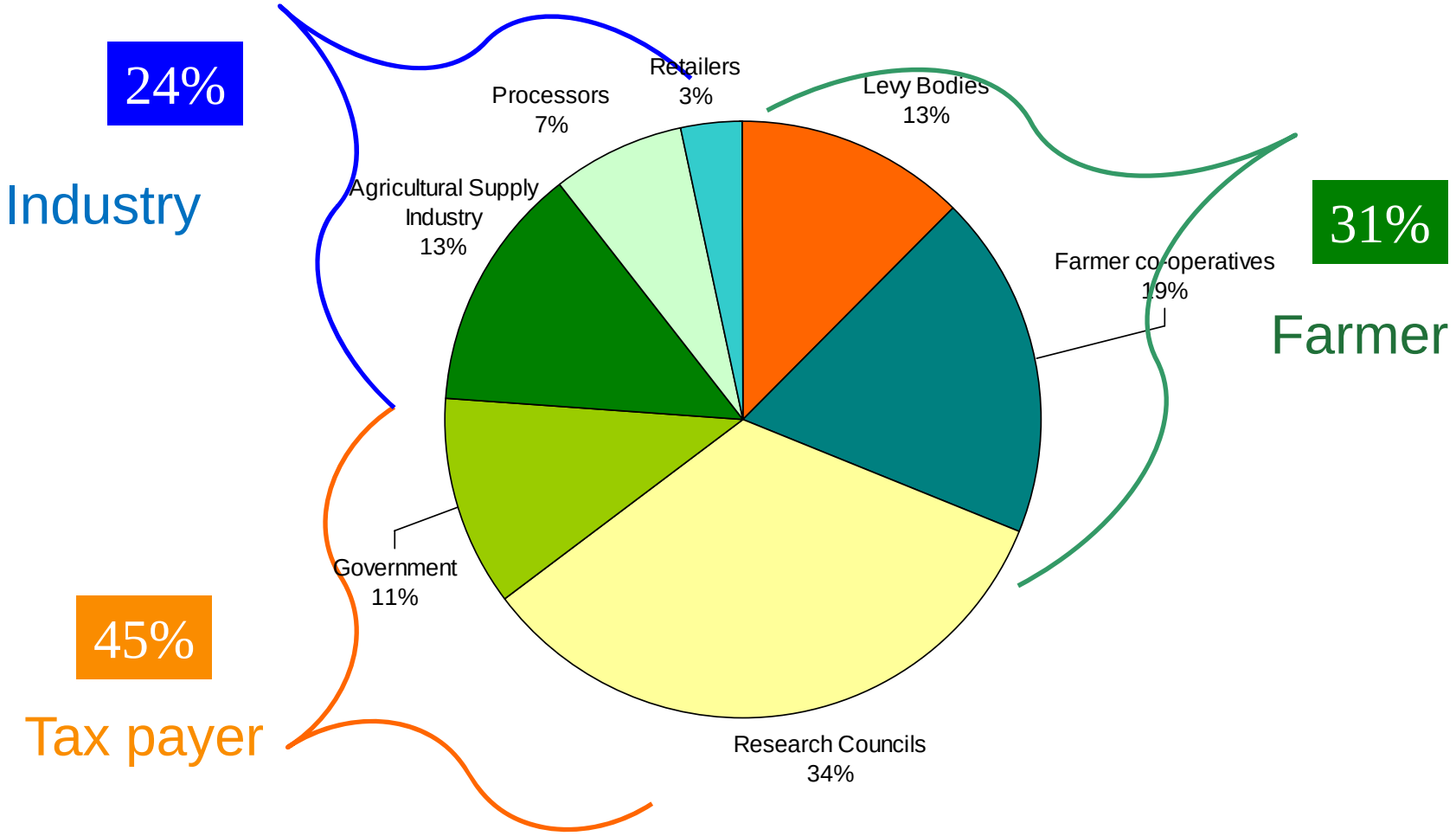
1. **Farmers recognise the role of the supply industry in delivering scientific solutions on the farm**

2. **Farmers believe that the Government should take a more active role in delivering agricultural science solutions**

3. **Farmers do not think they, or the organisations they fund, have a significant role in delivering agricultural science solutions, but they recognise the role they have in funding agricultural R&D**

4. **Farmers do not widely recognise the role of research stations and institutions**

Farmers think taxpayer funding should contribute the largest share of expenditure on scientific research



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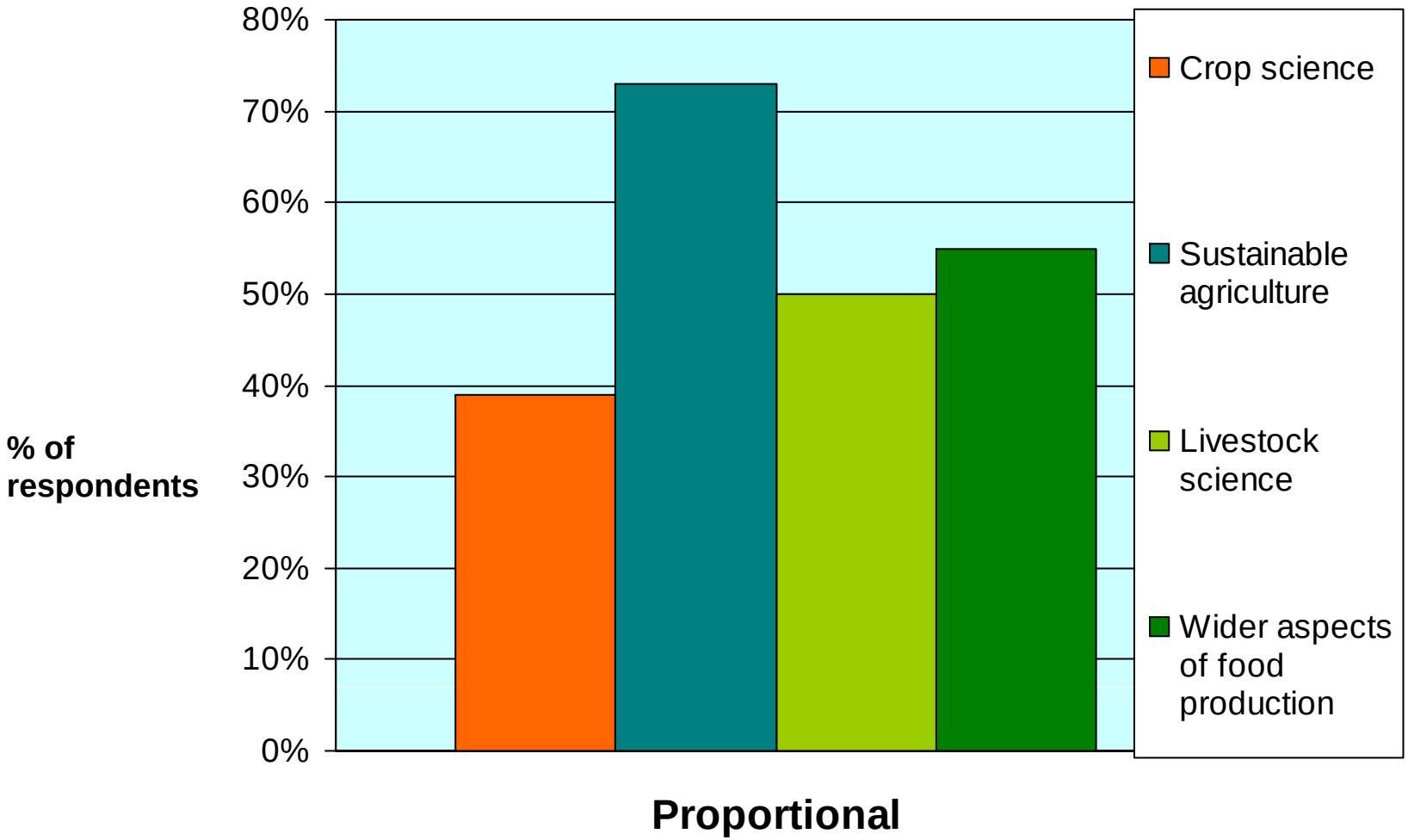
Research by The National Farm Research Unit

Farmers believe the highest priority for future public research needs to be sustainability



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Research by The National Farm Research Unit

What sustainability means to farmers varies by their enterprise type

Growers

Combinables

- soil management

and pollution control

Horticulture and potatoes

- Water management (sufficient water)

Livestock farmers

Dairy, beef and sheep

- grassland management, pollution control and soil

Pigs

- livestock science is more important than sustainability

Poultry

- soil and water management and pollution control

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Research by The National Farm Research Unit

What aspects of crop science should be the focus of future scientific research in agriculture?

Arable farmers and growers

Combinables

- **Plant breeding and increasing yield, disease resistance and pest control**

Horticulture

- **Pest control and new chemistry for crop protection**

Potatoes

- **Pest control, new chemistry and plant breeding**

Future livestock science research must focus on disease prevention and control, genetics and welfare

Animal disease prevention and control is key for all livestock producers

The main diseases are identified as:

- BovineTB
- Blue Tongue
- FMD
- Mastitis
- Johnnes
- BVD
- Avian Flu

Other aspects of livestock Science mentioned were:

Dairy

- Nutrition, management and welfare and genetics

Beef and sheep

- Similar to dairy, but less emphasis on nutrition and genetics

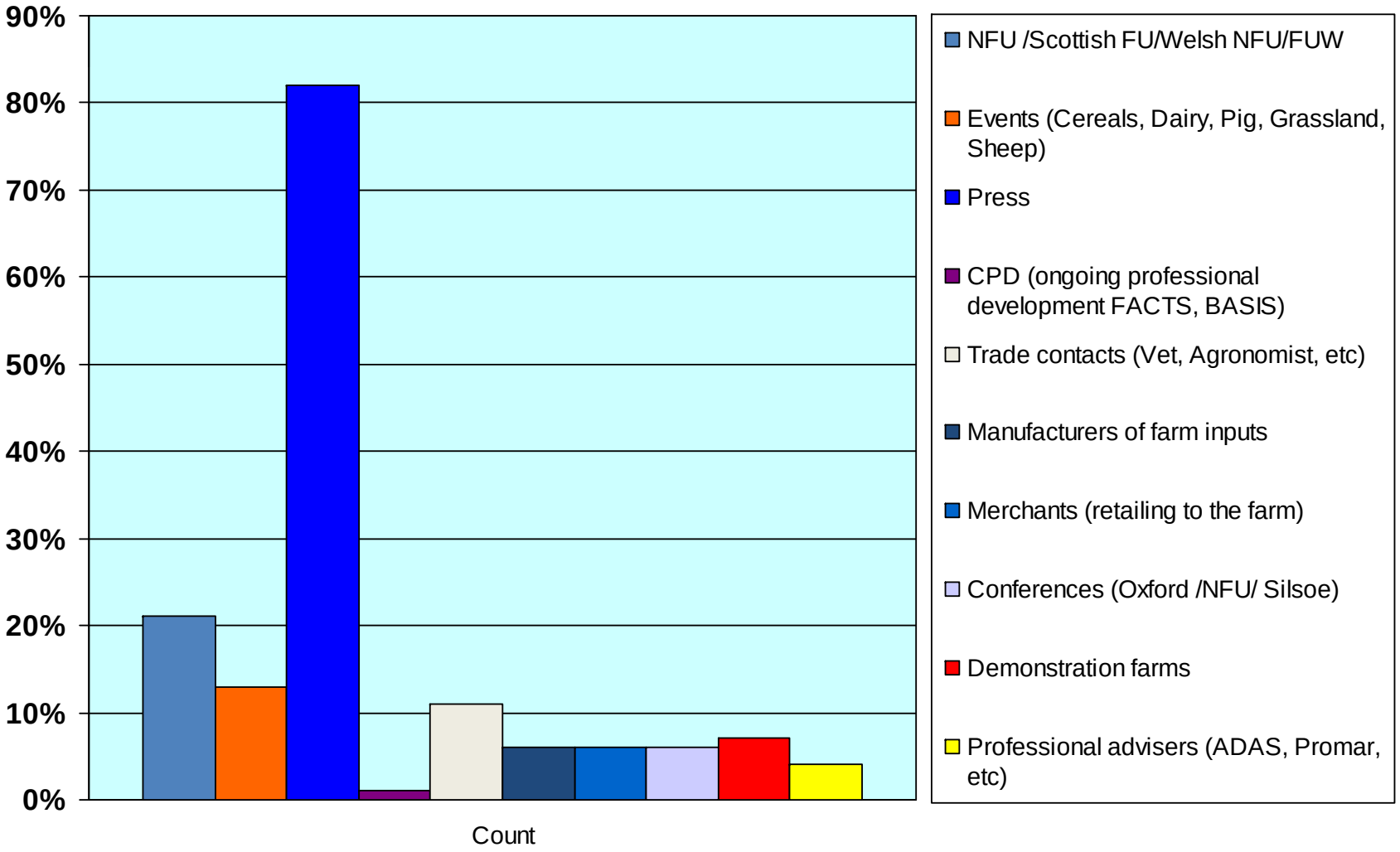
Pigs

- Genetics, nutrition and management

Poultry

- Nutrition and welfare

What is the best way to communicate new developments in agricultural and food research to you?
All 600 farmers



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Research by The National Farm Research Unit

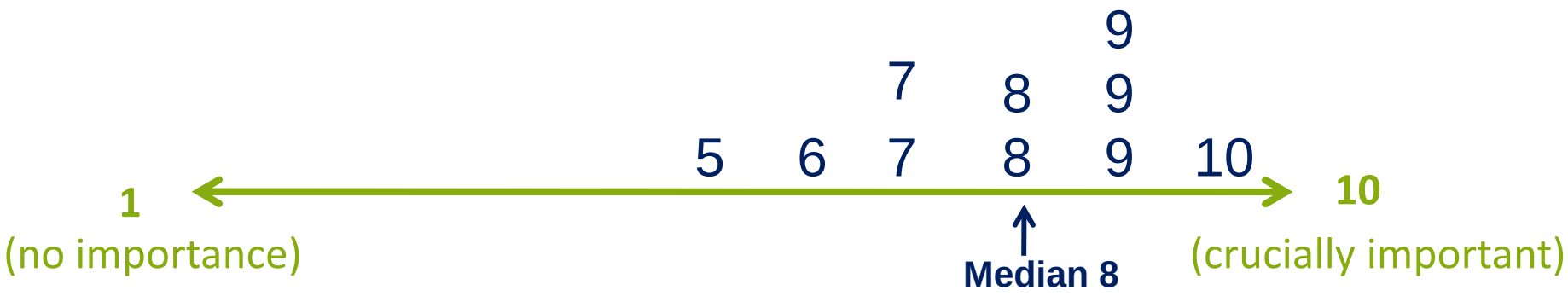
Most important future science advancements

IGD conducted a qualitative survey of food businesses gathering the views of 10 technical specialists in a series of 30 minute telephone interviews.

The interviewees came from the following businesses:

- **Retail**
- **Composite food manufacture**
- **Dairy processing**
- **Cereal processing**
- **Meat processing**
- **Fresh produce grower**
- **Wholesale**
- **Foodservice operation**

How do you view the overall importance of scientific research in primary production to your business?



Which areas of agricultural science research are most important to your business?

Issue	Technology	Driver
Sustainability	Low carbon farming Efficient water use Reducing chemical inputs Biodiversity Animal welfare Measurements	Environment Growing population Consumer demand Government
Varieties & production methods	Yield Efficiency Drought resistance	Food security
Food quality & safety	Tools to assess quality Non-destructive testing Nutrition	Grower benefit Consumer benefit Government

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Research by IGD

How well does agricultural science research meet the current needs of your business?

Sample comments	Reasons
Meets our needs	
Right areas not funded	Depends on what's in vogue Based on expertise available not industry needs
Not applied enough	Not tested in industry setting
Don't know what's out there	Not made aware Not disseminated Restricted access

What are the gaps in agricultural science research?

Global focus	Sustainability & food security	Strategy	Applied research
Sharing best practice	Growing population	Clear aims and long term direction	Meeting market needs
Looking outside EU	Reducing carbon and water		
	Evaluating farming systems		

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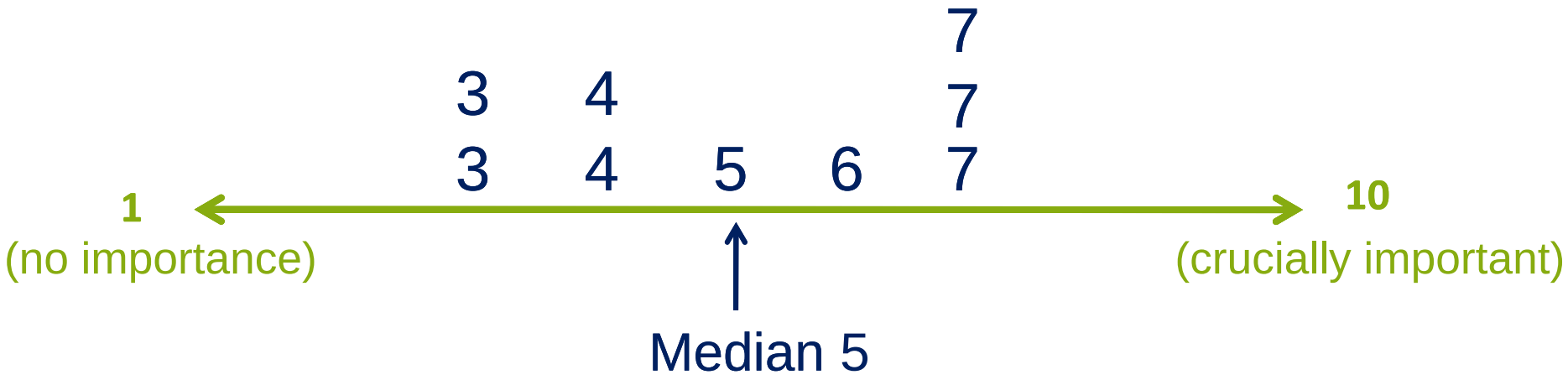
Research by IGD

Why do gaps in research exist?

Funding structure	Loss of skills	Commercial awareness and organisation
Short term political outlook	Historical loss of skills	Limited researcher understanding of business world
Funds available	Loss of university departments	Speed of research
No overall responsibility		Fragmented industry

How do you rate the overall usefulness of agricultural science research?



What issues do you think will be most important to your business?

Topic	Issue
Crop varieties	Yield Withstanding climate change GM
Resource depletion	Water Minerals in soil
Sourcing	New markets Post harvest physiology Pest control
Nutrition	Improving content Non-destructive rapid testing
Animal welfare	Raising standards
Food safety	Pathogen control

Technologies which can help us

GM	**Significant potential** **Are we losing skills?** **Introduction to EU & UK inevitable?**
Nanotechnology	**Potential not yet clear** **Could developments be blocked?**
Genomics	**Whole genome selection in cattle** **Varietal selection**
Sustainable agriculture	**Hydroponics** **Water management** **Soil science**

Consequences for the food industry if research is not carried out?

- Increased food prices
- Increased food imports
- Shifting global politics: countries whose climates support food production increase in power
- Individual businesses implement their own solutions: fragmented response
- UK will lose competitive advantage

Conclusions – Engagement, Co-operation and Application

- **Farmers** need to be more engaged in shaping and funding agricultural science
- **Government** should better understand the need for and the needs of agricultural science
- **Research institutes** and organisations need to apply their R&D to the needs of farmers
- **The food industry** should take a greater role in determining which science is undertaken and play a role in funding it
- Better communication of science needs and solutions in a way that can be understood by the whole science chain is essential

Co-operation and engagement between those with an interest in agricultural science will help deliver the applied technical advances the farming industry will need in the future.

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Website contacts

Oxford Farming Conference: www.ofc.org.uk

Volac: www.volac.com

BBSRC: www.bbsrc.ac.uk

IGD: www.igd.com

NFRU: www.nfru.co.uk

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