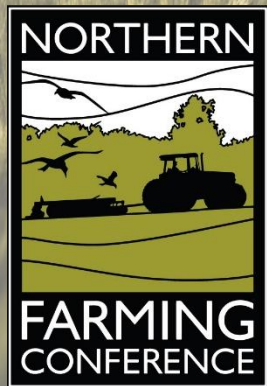


# Northern Farming Conference 2025

**People, Planning and Profit:  
Building a Resilient Future for Farming**

**Wednesday 5<sup>th</sup> November**





**Get involved in the  
conversation:**

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**#NorthFarmConf25**

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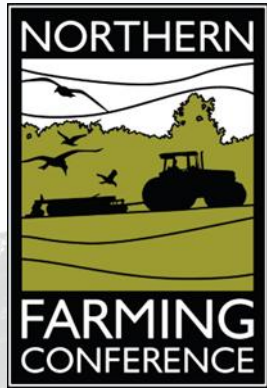
# Welcome

## Samantha Charlton

Northern Farming Conference  
Committee Chair

Beef & Lamb Sector Director  
AHDB



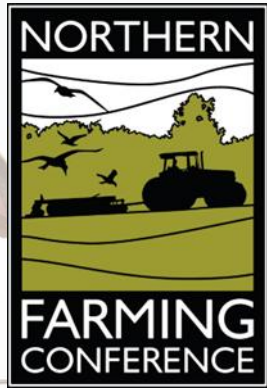


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# Speaker Session

Chaired By:

**Lord Curry of Kirkharle**

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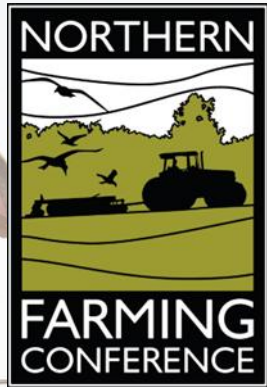
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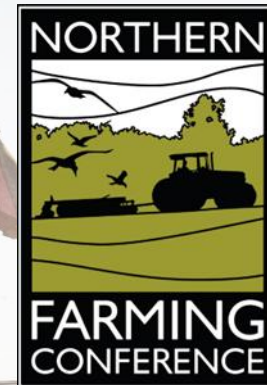
# Alistair Carmichael

MP & EFRA Select Committee Chair



# Jeremy Moody

Secretary and Adviser for  
The Central Association of  
Agricultural Valuers



[Link to Speaker Bio's](#)

# Baroness Minette Batters

Former NFU President, farmer and  
appointed by DEFRA to lead the  
Farm Profitability Review





# Minette Batters



Farmer & former President  
of the National Farmers' Union

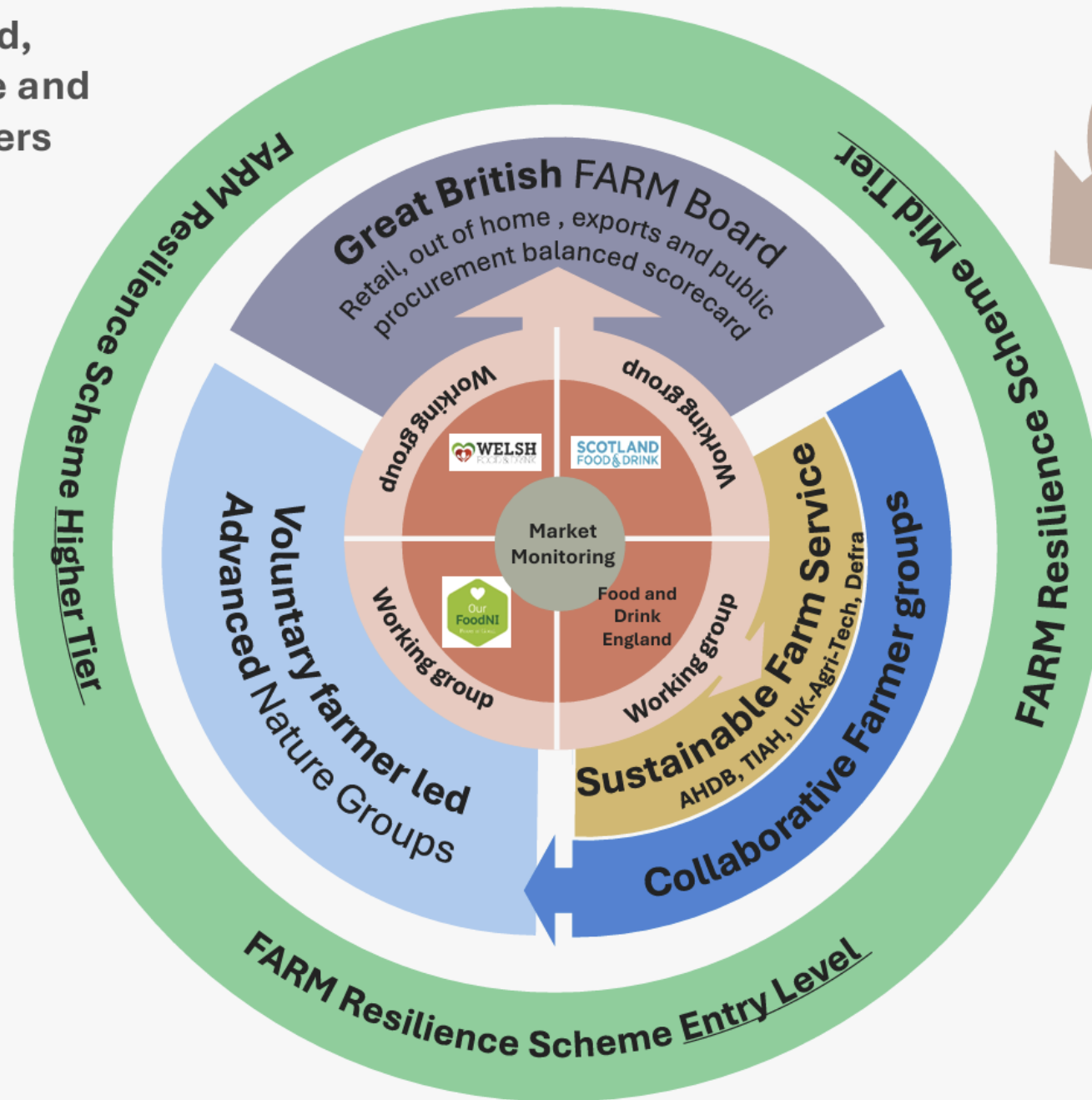




# Four Prime Ministers in Six Years



# FARM: Food, Agriculture and Rural Matters



Grocery Code  
Adjudicator and  
Agricultural  
Supply Chain  
Adjudicator

**Thank you for listening**  
Questions?

[minette@barfordparkfarm.co.uk](mailto:minette@barfordparkfarm.co.uk)

 [@minette\\_batters](https://twitter.com/minette_batters)

# Panel Questions

Facilitated by

**Lord Curry of Kirkharle**



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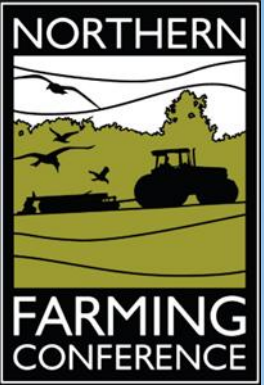
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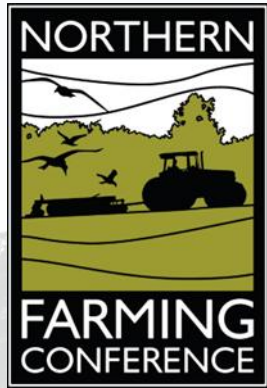
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# Coffee Break



[Link to Speaker Bio's](#)



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# Samantha Charlton

Northern Farming Conference  
Committee Chair

Beef & Lamb Sector Director  
AHDB



# Professor Paul Wilson

Professor of Agricultural  
Economics at Nottingham  
University and President of the  
Agricultural Economics  
Association





University of  
Nottingham  
Food Systems Institute

# Resilient Farming Futures?

**Professor Paul Wilson**

**Director, Centre for Food Policy and  
Foresight and President of the  
Agricultural Economics Association**

**With evidence from Sarah Baker, Head of  
Economics AHDB**

Sowing ideas, cultivating solutions



Sustainability



Community

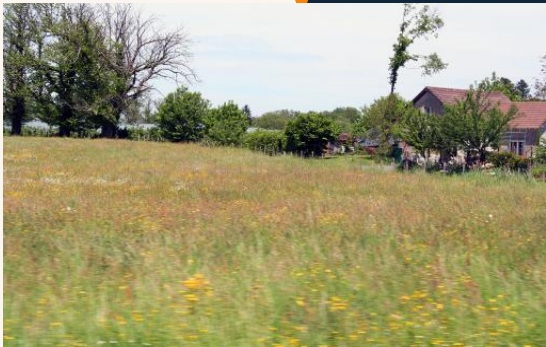


Nutrition





# Farming is .... complex



# Farming is .... important

37% of global land use  
26% of global workforce  
9% of world undernourished  
25% of total GHGs

70% of global water use  
4% of global GDP  
8.2bn people rely on for food  
8% of all trade is for food





Population growth increase is slowing

Source: our world in data

Our World  
in Data

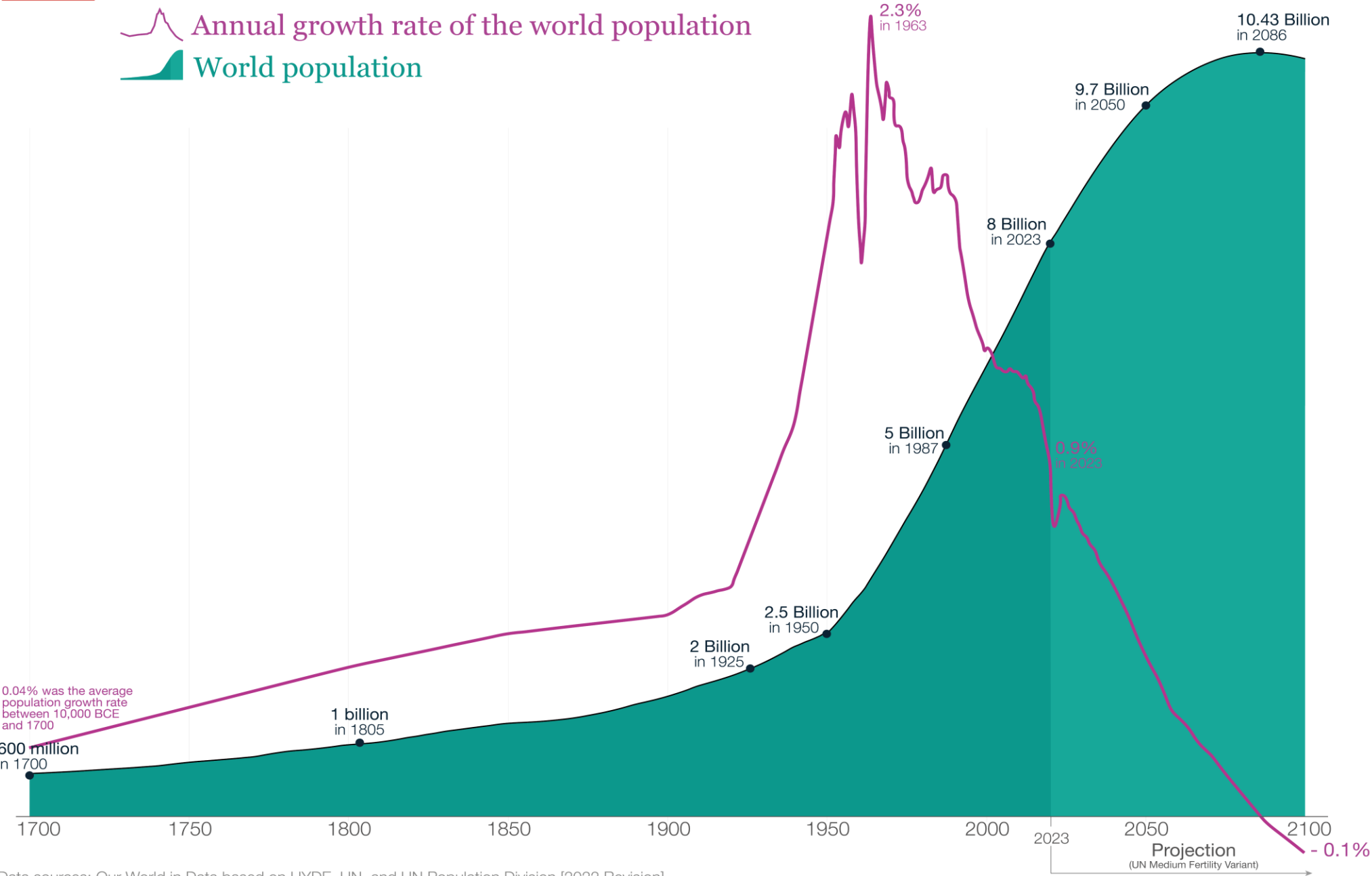
# World population growth, 1700-2100



Annual growth rate of the world population



World population



Data sources: Our World in Data based on HYDE, UN, and UN Population Division [2022 Revision]  
This is a visualization from [OurWorldinData.org](https://ourworldindata.org), where you find data and research on how the world is changing.

Licensed under [CC-BY](https://creativecommons.org/licenses/by/4.0/) by the authors Max Roser and Hannah Ritchie.

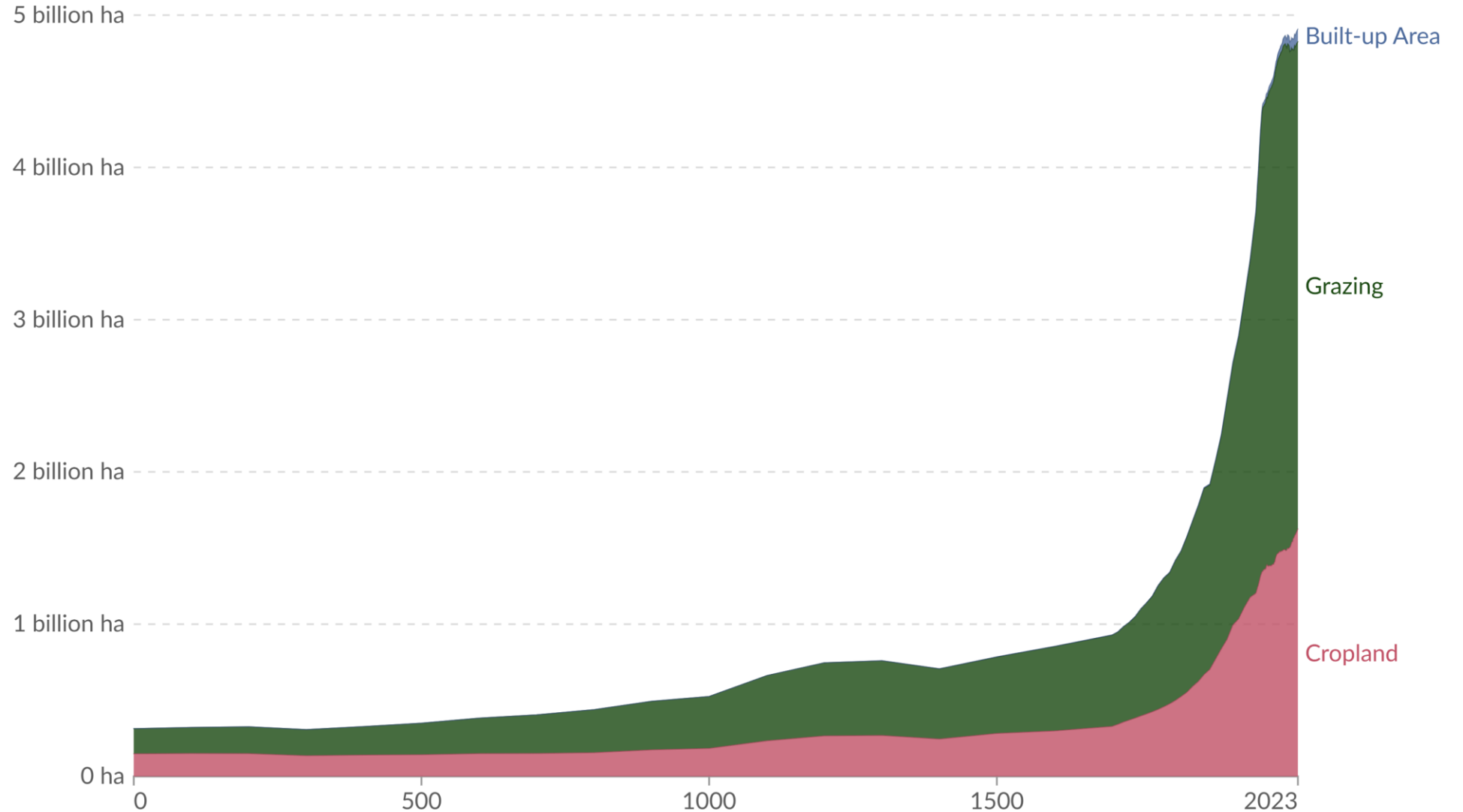


We use more land for agriculture than we have ever done

# Land use over the long-term, World

Total land area used for cropland, grazing land and built-up areas (villages, cities, towns and human infrastructure).

Our World  
in Data



Source: HYDE (2023) – [with minor processing](#) by Our World in Data

Data source: HYDE (2023)

OurWorldinData.org/land-use | CC BY



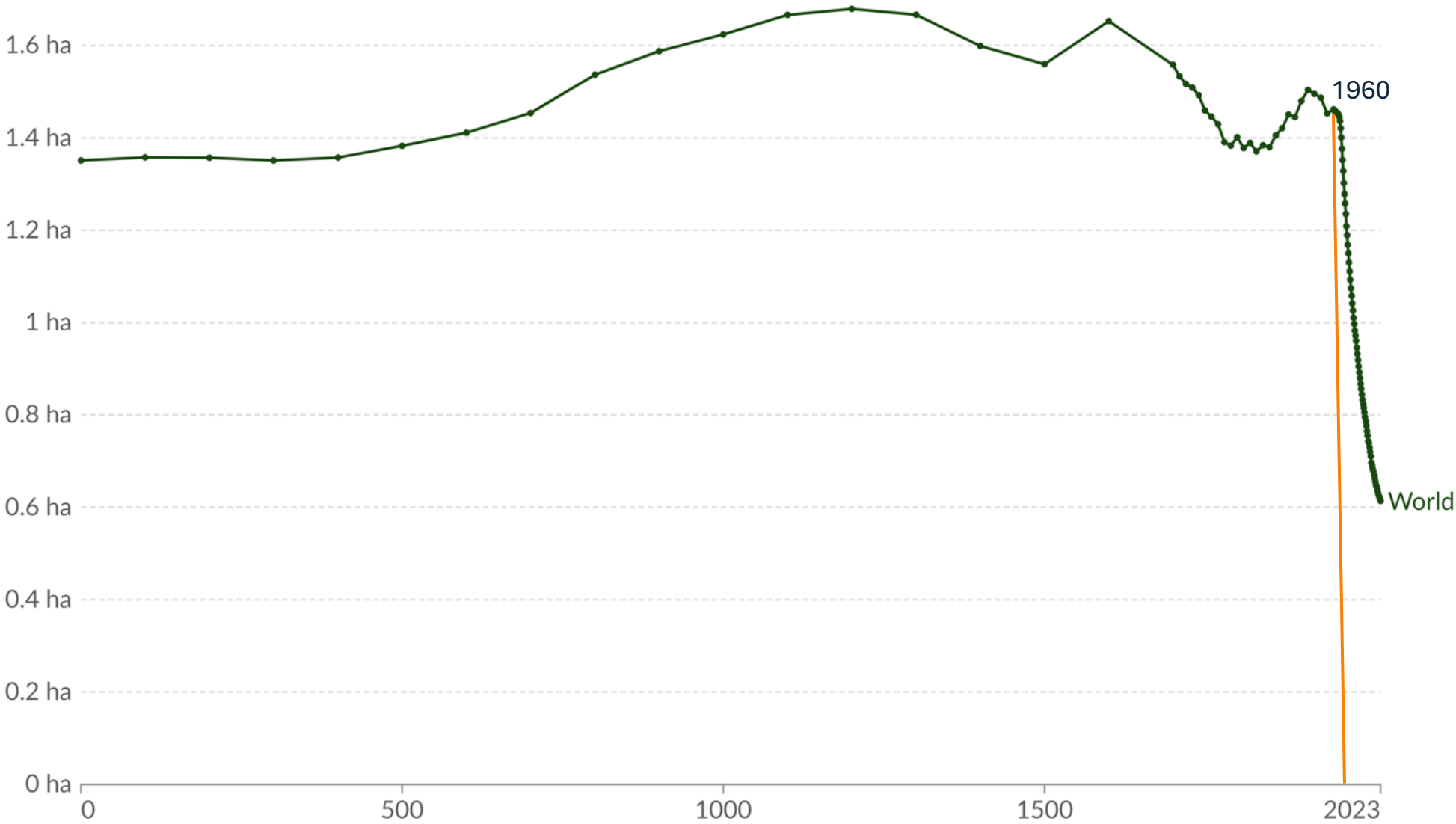
## Farm Performance Metric [FPM]?

We use less land per person than we have ever done

Source: HYDE (2023) – [with minor processing](#) by Our World in Data

# Agricultural land use per person

This dataset is showing estimates of the total agricultural land area – which is the combination of cropland and grazing land – per person. It is measured in hectares per person.



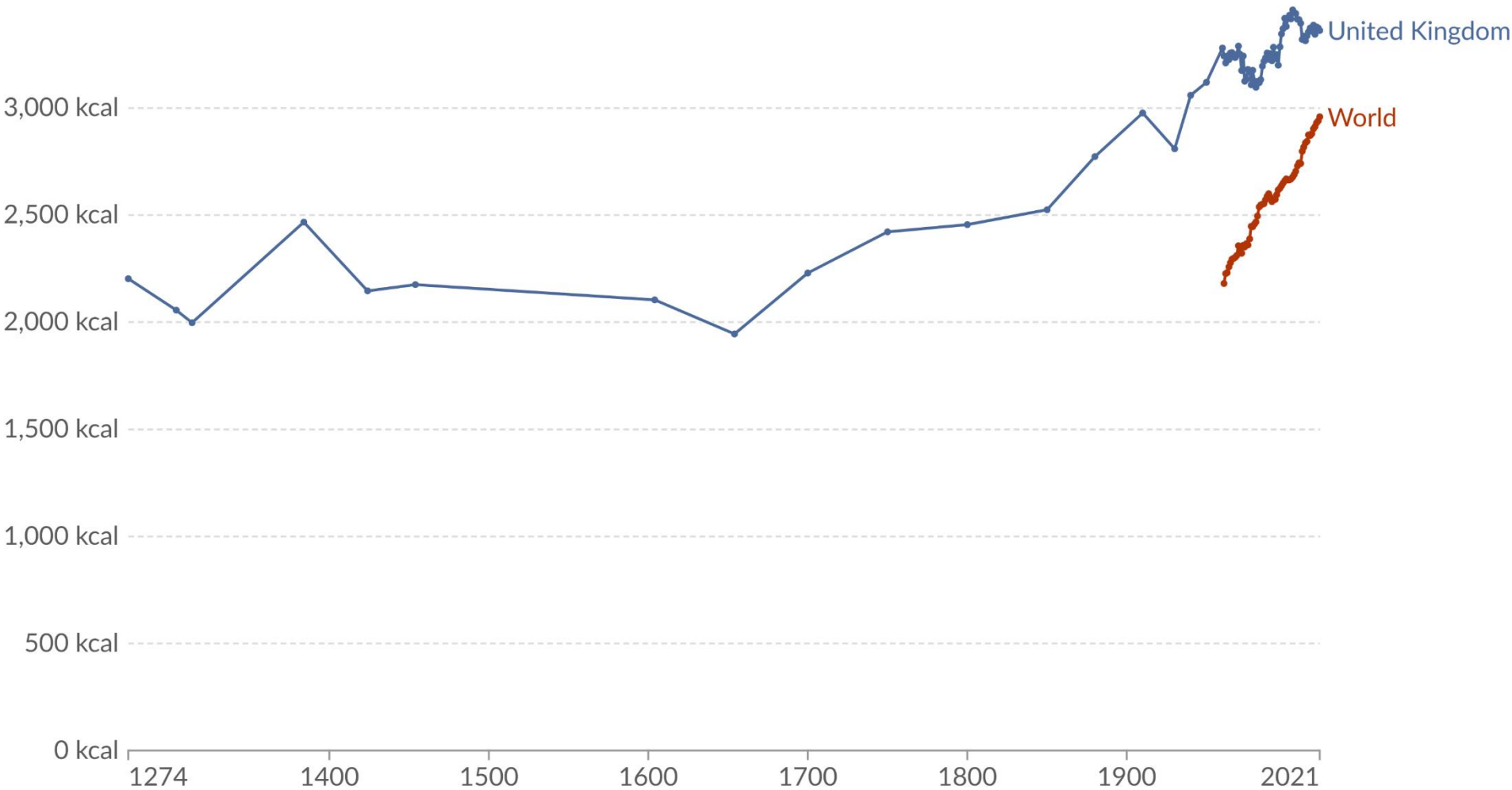


Globally we  
are  
supplying  
the most  
calories per  
day ever

Source: Food and  
Agriculture Organization of  
the United Nations (2023)  
and other sources with  
major processing by Our  
World in Data

# Daily supply of calories per person, 1274 to 2021

Measured in kilocalories per person per day. This indicates the calories that are available for consumption, but does not necessarily measure the number of calories actually consumed, since it doesn't factor in consumer waste.



**Data source:** Food and Agriculture Organization of the United Nations (2023) and other sources  
OurWorldinData.org/food-supply | CC BY

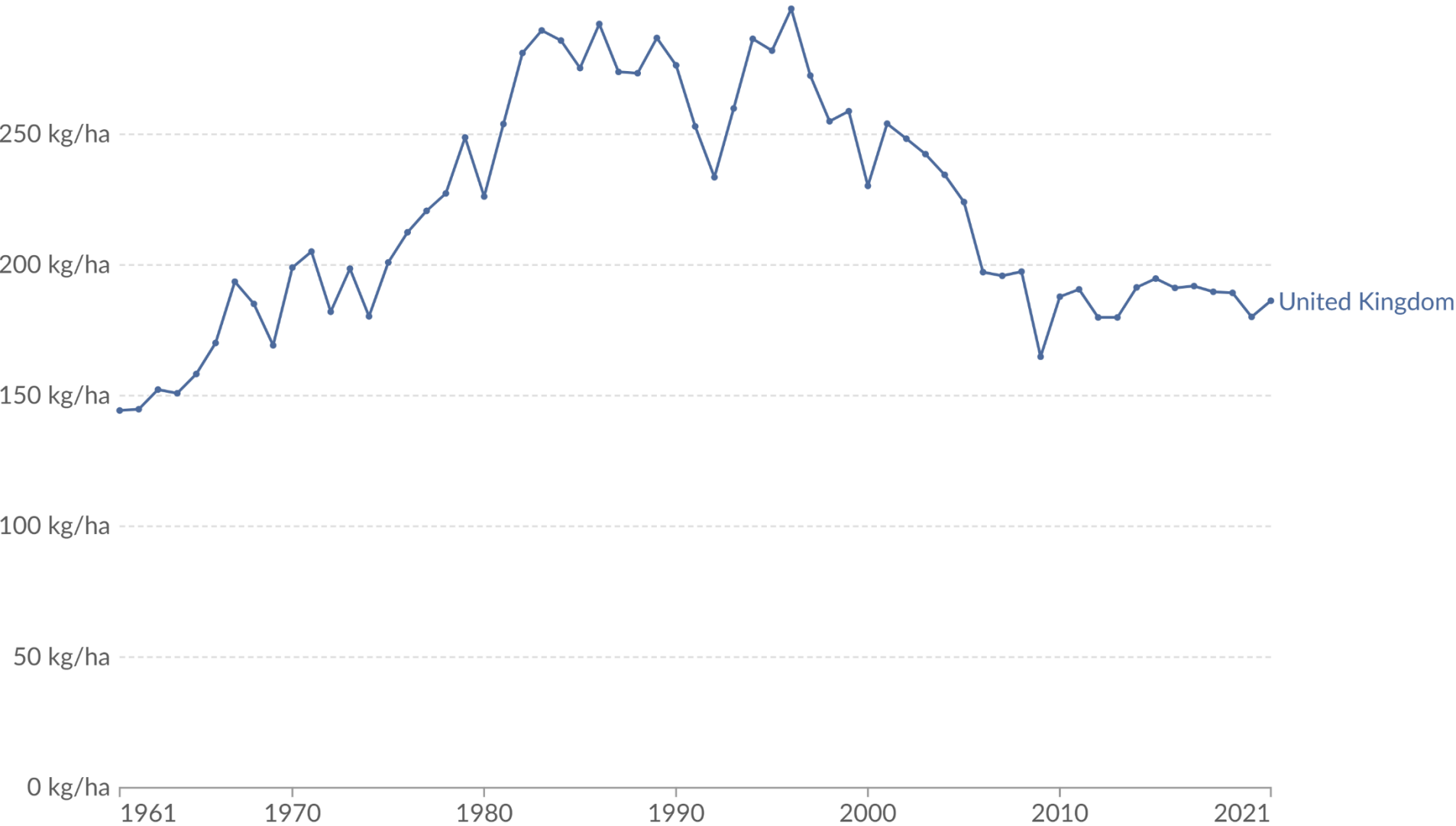


In the UK  
we are  
applying  
much less  
fertiliser  
per ha than  
30 years  
ago

Source: Food and  
Agriculture Organization of  
the United Nations (2023) –  
with major processing by  
Our World in Data

# Fertilizer use per hectare of cropland, 1961 to 2021

Application of all fertilizer products (including nitrogenous, potash, and phosphate fertilizers), measured in kilograms of total nutrient per hectare of cropland.



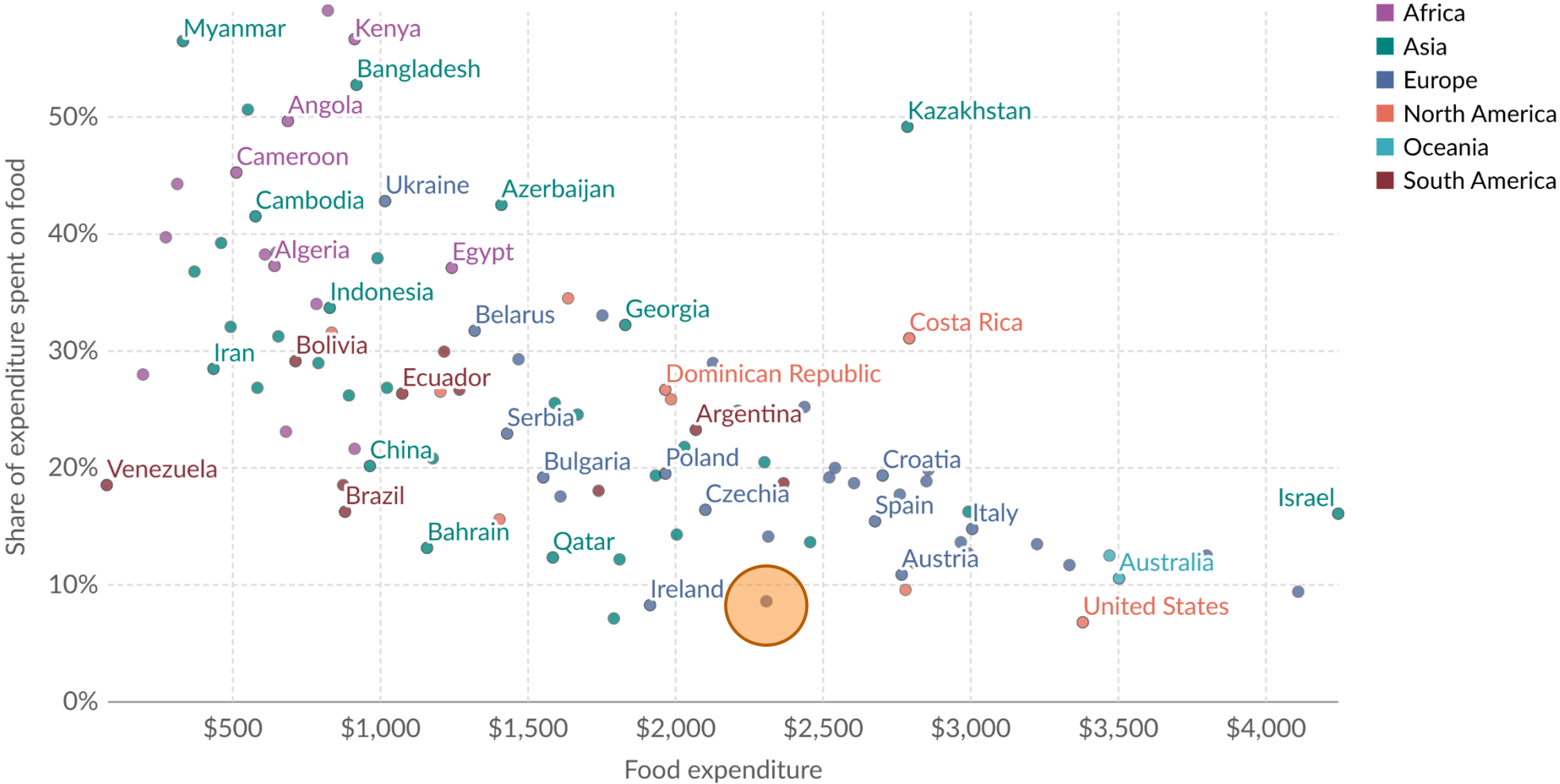


Developed country expenditure on food is low – driven by agricultural advances that have allowed economic development

Source: USDA Economic Research Service (ERS) (2023)

# Share of expenditure spent on food vs. food expenditure per person, 2022

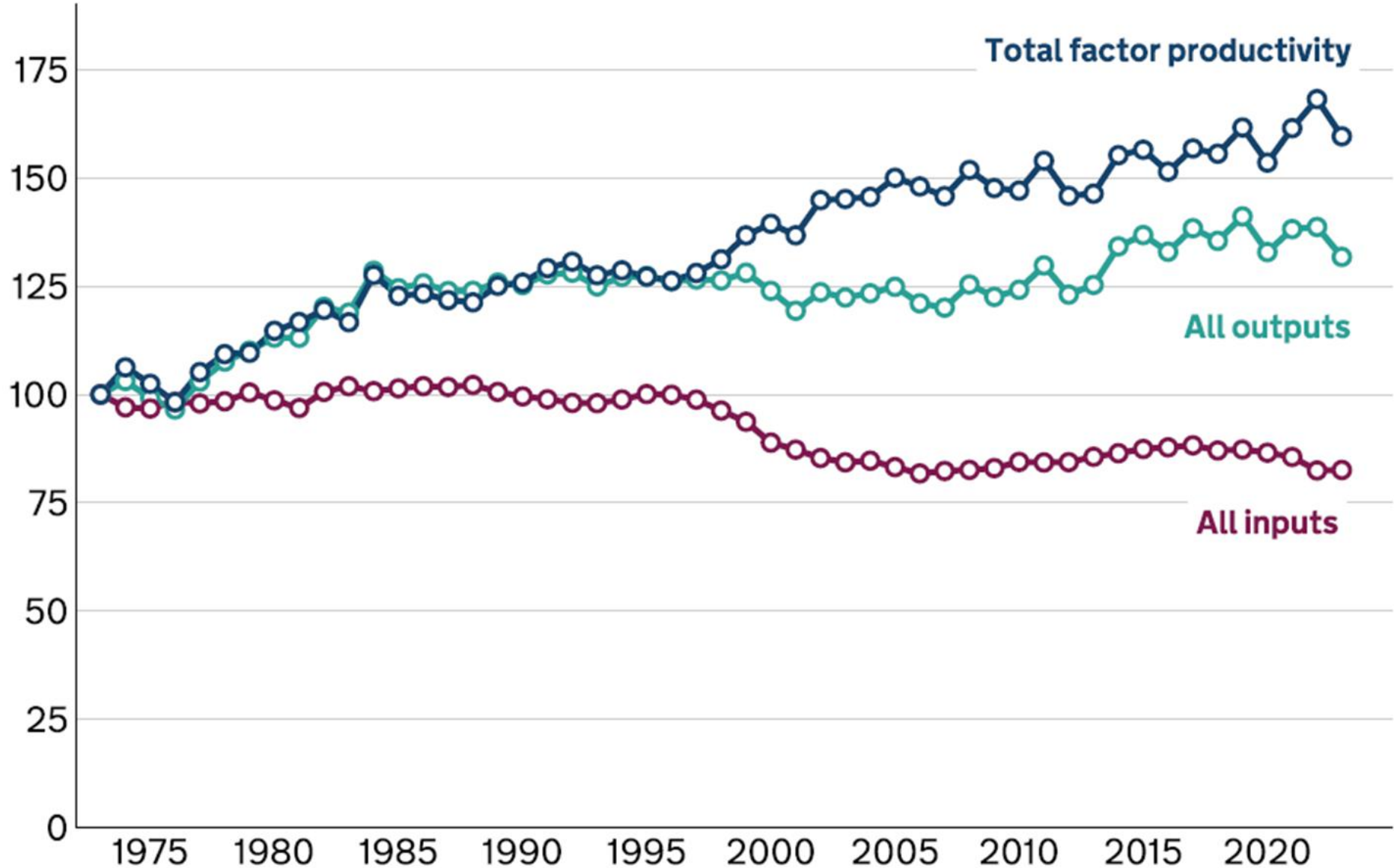
Food expenditure only includes food bought for consumption at home. Out-of-home food purchases, alcohol, and tobacco are not included. Food expenditure is expressed in US dollars per person. It is not adjusted for inflation or differences in the cost of living between countries.





TFP growth  
driven by  
lower inputs

Figure 2: Long term trends in TFP of the UK agricultural industry (1973 = 100)

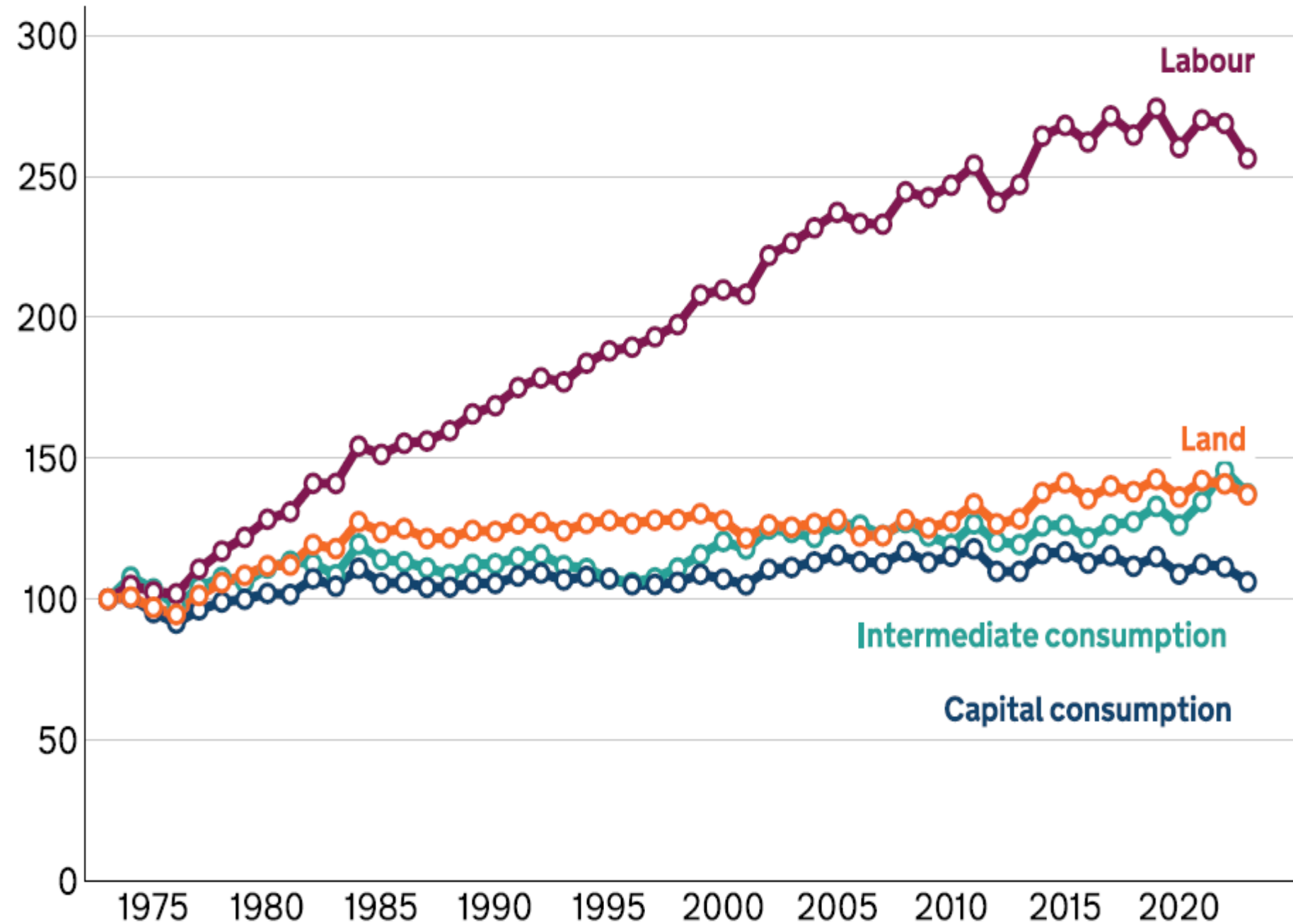


Source: Defra  
<https://www.gov.uk/government/statistics/total-factor-productivity-of-the-agricultural-industry/total-factor-productivity-of-the-united-kingdom-agricultural-industry-in-2023>



TFP growth  
driven by  
lower  
labour use

Source: Defra  
<https://www.gov.uk/government/statistics/total-factor-productivity-of-the-agricultural-industry/total-factor-productivity-of-the-united-kingdom-agricultural-industry-in-2023>

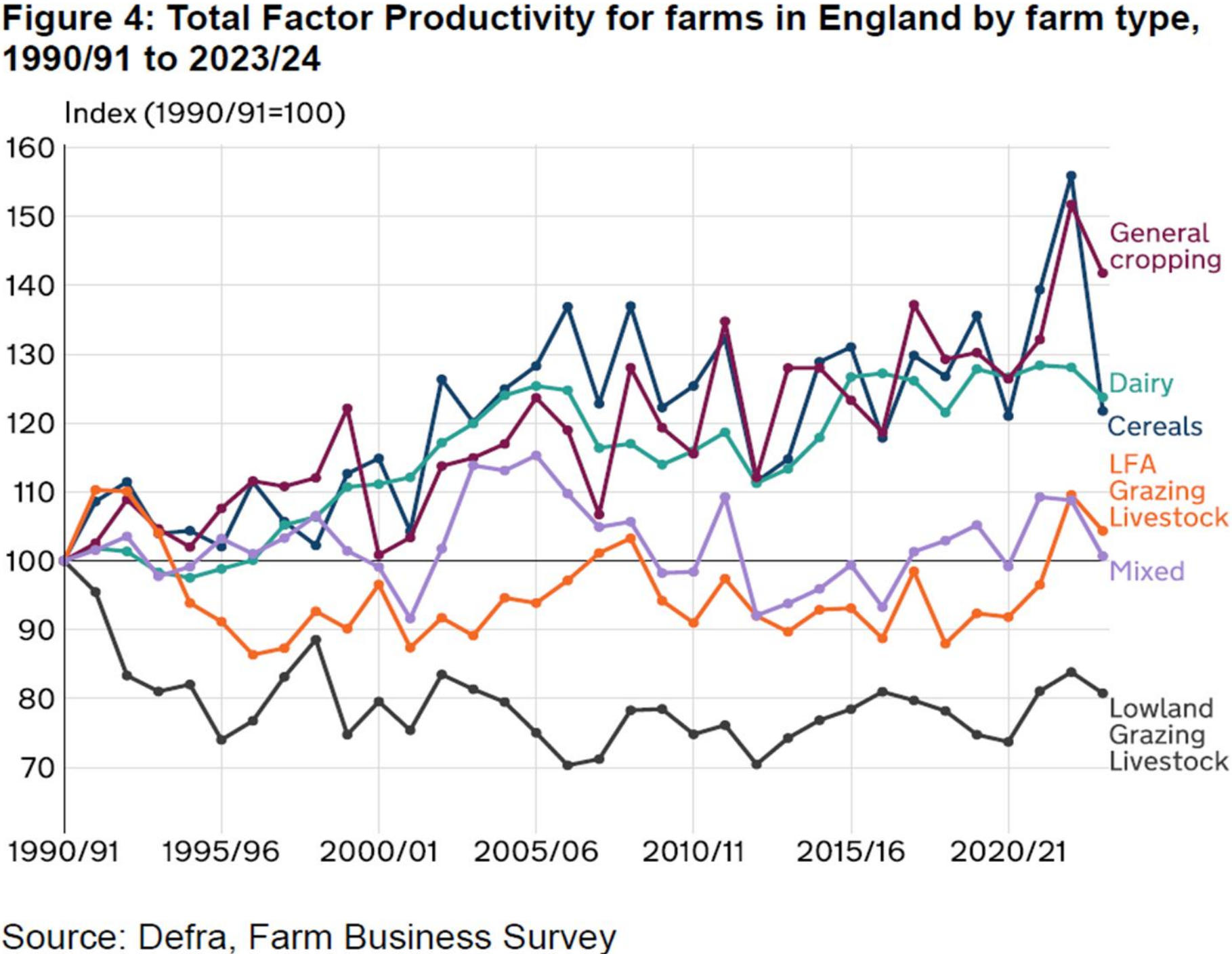


Source: Defra © Crown copyright



TFP growth  
varies by  
farm type –  
labour  
productivity  
is key

Source: Defra  
<https://www.gov.uk/government/statistics/total-factor-productivity-for-england-by-farm-type/total-factor-productivity-for-england-by-farm-type-199091-to-202324-statistical-notice>







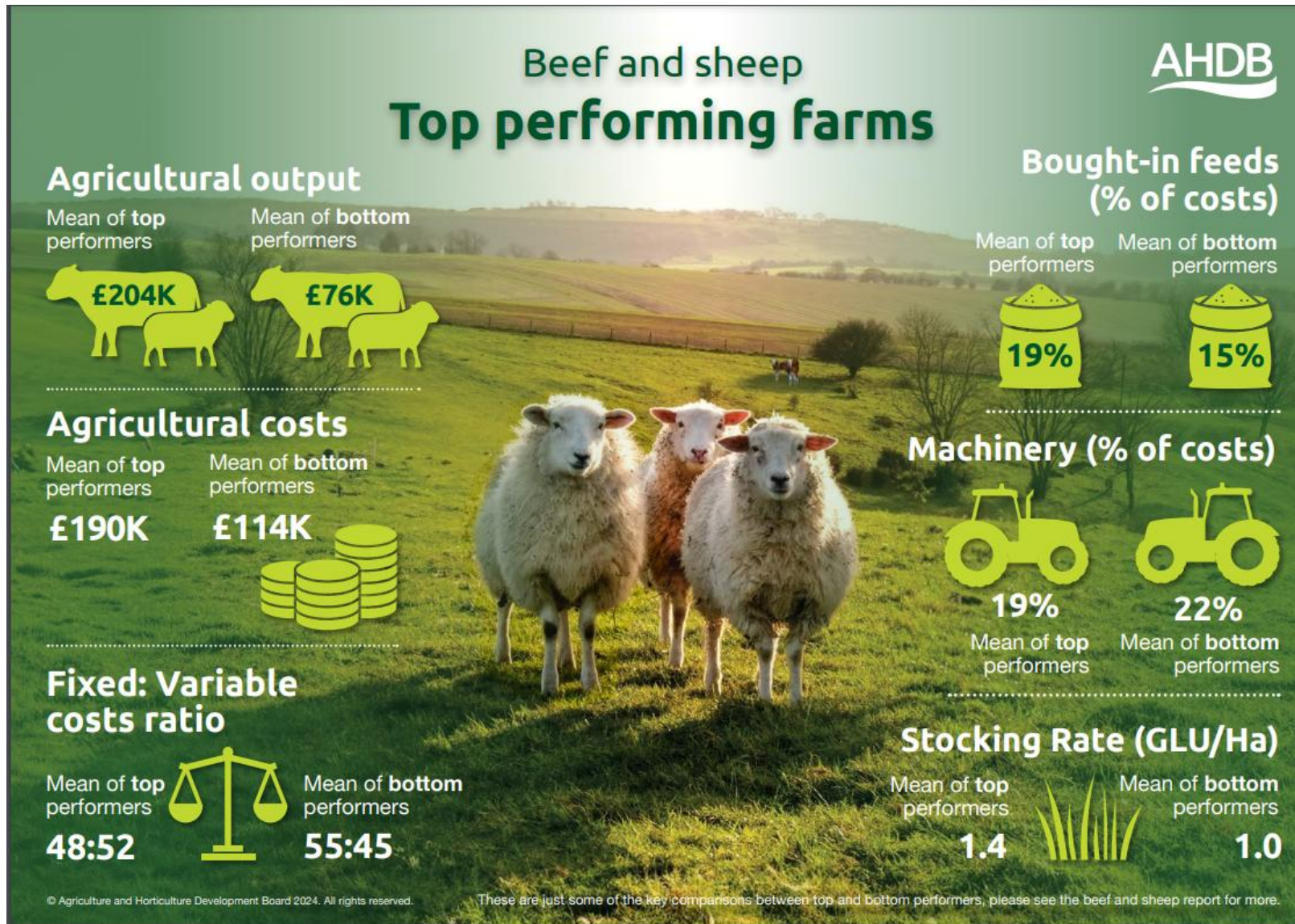
What about farm  
level profit?

# What are the top performers doing?



1. Minimise overhead costs
2. Set goals and budgets
3. Compare yourself with others and gather information
4. Understand the market
5. Focus on detail
6. Have a mindset for change and innovation
7. Continually improve people management
8. Specialise

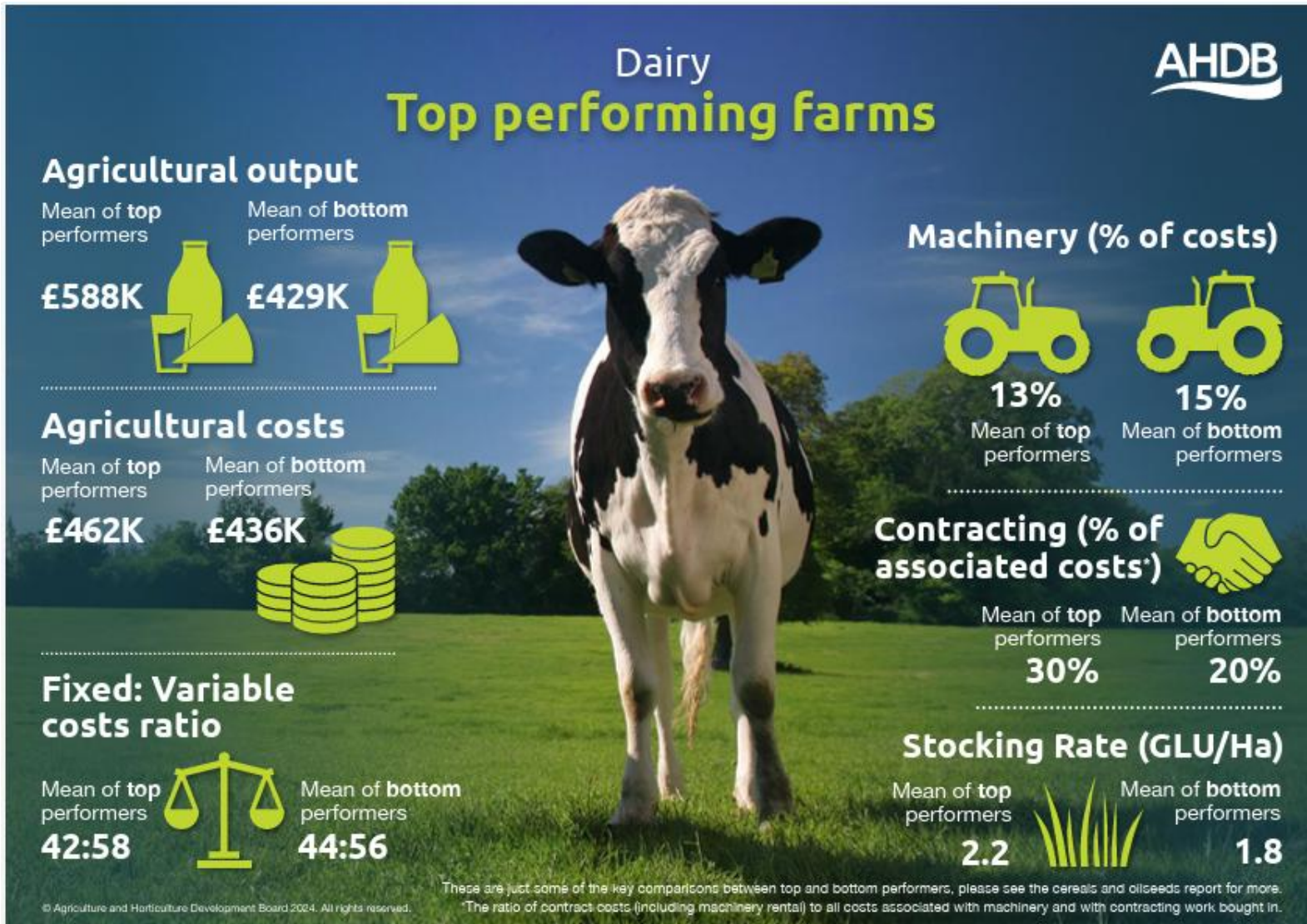
# Characteristics of top performing farms



## Eight comparisons between top and bottom performing beef and sheep farms

1. Economic size
2. Fixed and variable costs
3. Tenure
4. Unpaid labour
5. Stocking rate
6. Diversification
7. Contract rearing out
8. Proportion of fatstock

# Characteristics of top performing farms



## Eight comparisons between top and bottom performing dairy farms

1. Agricultural costs
2. Agricultural output
3. Contracting
4. Farm area
5. Stocking rate
6. Mix of enterprises
7. Milk price
8. Agri-environment schemes

# Characteristics of top performing farms

## Cereals and oilseeds Top performing farms

AHDB

### Agricultural output

Mean of top performers

£342K



Mean of bottom performers

£257K



### Agricultural costs

Mean of top performers

£276K

Mean of bottom performers

£337K



### Fixed: Variable costs ratio

Mean of top performers

44:56



Mean of bottom performers

59:41

### Wheat yield (t/ha)

Mean of top performers

8.76



Mean of bottom performers

8.00



### Machinery (% of costs)



19%

Mean of top performers



23%

Mean of bottom performers

### Contracting (% of associated costs\*)



Mean of top performers

35%

Mean of bottom performers

20%

These are just some of the key comparisons between top and bottom performers, please see the cereals and oilseeds report for more.  
\*The ratio of contract costs (including machinery rental) to all costs associated with machinery and with contracting work bought in.

## Cereals and oilseeds farm income

Mean of top performers  
£169,440

£104,060  
difference

Mean of bottom performers  
£65,380

## Eight comparisons between top and bottom performing cereals and oilseeds farms

1. Agricultural costs
2. Contracting
3. Debt
4. Agri-environment schemes
5. Agricultural diversity
6. Wheat price and yield
7. Agricultural output
8. Attitude to change



Success?  
Perhaps only in part



# Net Zero - Complexities

- Agriculture large impact on global GHGs
- Extensive farm level variation
- System and product GHG variation
- Scope 1, 2, 3 emissions
- Agriculture offers the “big win” to reduce GHGs – Scope 3 for the Food Industry
- **Ag Input** Carbon Border Adjustment Mechanisms (CBAM)





# Ag-CBAM

Agricultural Carbon Border Adjustment Mechanism (**Ag-CBAM**) needed for level playing field

Ag-CBAM to support global **Net Zero** ambitions

Climate agreements need to include **carbon consequence of food consumption**



University of  
Nottingham  
Food Systems Institute

Policy Brief 2024  
Centre for Food Policy and Foresight

## Ag-CBAM Critical to Meet Net Zero Goals

### Executive Summary

Agriculture accounts for nearly one-third of global greenhouse gas emissions. Under the Climate Convention, countries have committed to net zero targets to reduce these emissions.

However, there is a growing risk of carbon leakage, where agricultural production—and its associated emissions—shifts to countries with weaker climate policies. This occurs because emissions are measured where food is produced, not consumed, undermining mitigation efforts.

An Agricultural Carbon Border Adjustment Mechanism (Ag-CBAM) can help address this issue by ensuring fairer competition for domestic producers, subject to carbon pricing while discouraging the export of unregulated emissions-intensive products to regulated regions.

This policy brief highlights why Ag-CBAM should be part of international climate agreements and provides key recommendations for COP29 policymakers to effectively mitigate carbon leakage in the global food sector.

### Policy Recommendations

- Incorporate Ag-CBAM into climate agreements: Ensure Ag-CBAM is formally recognized to support global net zero efforts.
- Target high-leakage sectors: Focus on emissions-intensive products like livestock and fertilizer-intensive crops, where carbon leakage is greatest.
- Use transparent carbon pricing benchmarks: Implement sector-specific benchmarks to assess GHG emissions in imports, ensuring fair competition and incentivizing low-emission practices abroad.
- Foster global collaboration: Harmonize carbon pricing mechanisms across countries to prevent market distortions and ensure fair competition.
- Support developing countries: Provide assistance and differentiated benchmarks to help them transition to lower-emission practices.

Professor Paul Wilson's expertise in sustainability metrics is delivering new thought-leadership approaches to how we balance food production and environmental protection.

✉ [paul.wilson@nottingham.ac.uk](mailto:paul.wilson@nottingham.ac.uk)

🌐 [notts.ac.uk/fsi](https://notts.ac.uk/fsi)





# Farming just got **more** complex





# Sustainable Food Futures (SFF)

## Can we simplify?

### **Sustainable**

Carbon, Biodiversity, Water, Soil

### **Food**

Nutritious, Available, Production Growth  
Security

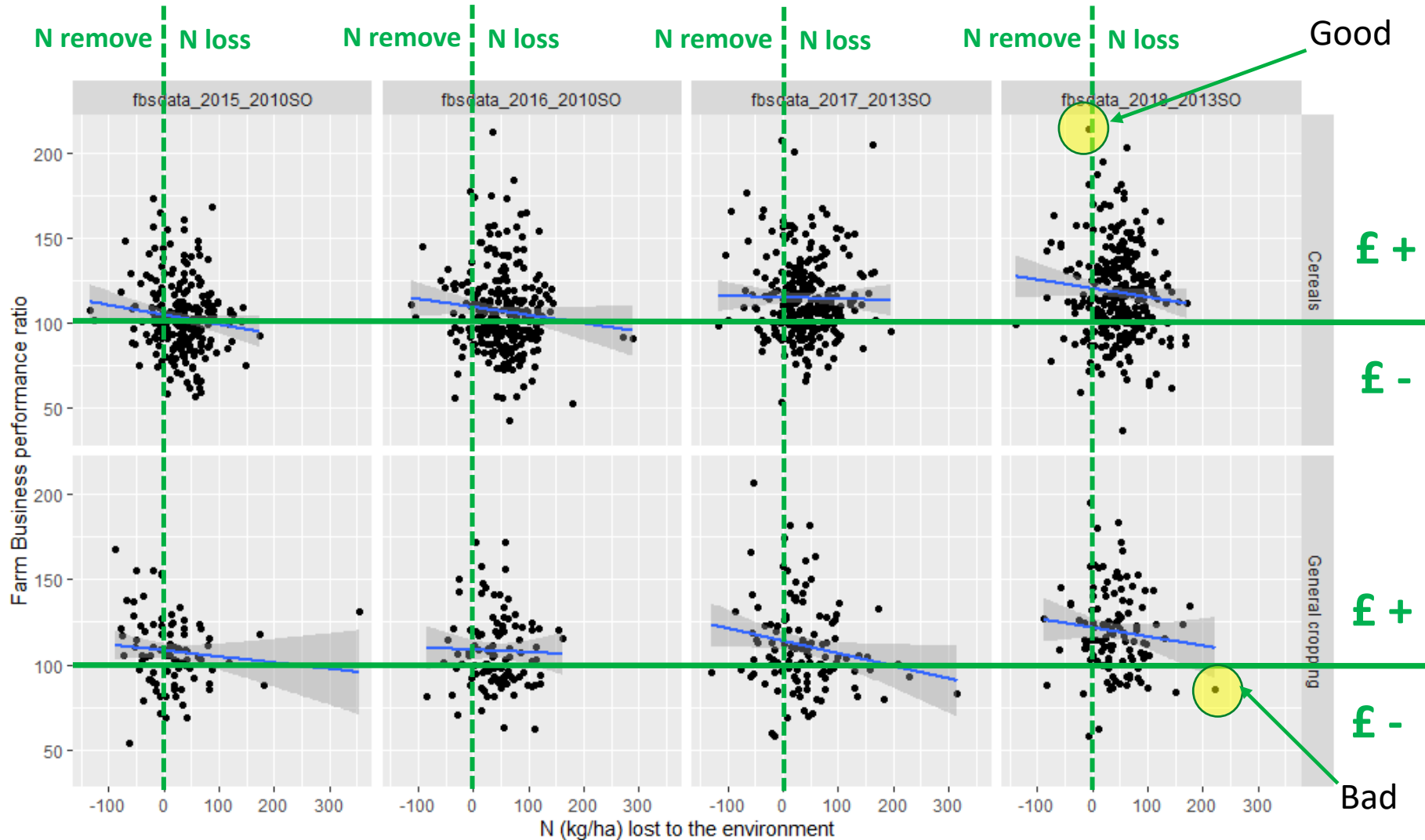
### **Futures**

Affordable, Farm profitability, Social  
acceptance



What's the evidence  
we can deliver on  
profit **and** the  
environment?

# How is farm gate N balance related to economic performance?



## General Cropping

Farms that lose most N to environment (>60kg/ha) are **poorer £ performers**

Own **FACTS** advice leads to **better £ performance**

No link between N-loss to environment and source of fertiliser advice

**Resource Use Efficiency Matters and is a win-win opportunity.**

Gray Betts, C., Hicks, D., Reader, M. and Wilson P. (2023). Nitrogen balance is a predictor of farm business performance in the English Farm Business Survey, *Frontiers in Sustainable Food Systems*, 7:1106196 <https://doi.org/10.3389/fsufs.2023.1106196>



# Confused?



## Let's simplify

# RBR

Rural Business Research

## Paul Wilson's 10 key drivers of farm business performance



University of  
Nottingham  
UK | CHINA | MALAYSIA



- Typically larger farm size
- Educational attainment
- Information seeking
- Environmental objectives
- Specialisation
- Focus on Margins (*not yields*)
- Cost control
- Attention to detail
- Open to new opportunities
- Business planning





University of  
Nottingham  
Food Systems Institute

# Thank you



bb-food-systems@nottingham.ac.uk



Food Systems Institute at the  
University of Nottingham



@foodsystemsinst



Sowing ideas, cultivating solutions



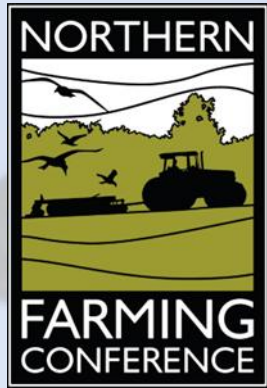
Sustainability



Community



Nutrition



# Questions

Facilitated by

**Samantha Charlton**

Northern Farming Conference

Committee Chair

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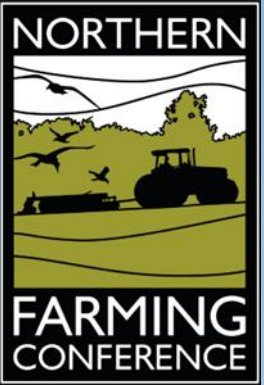
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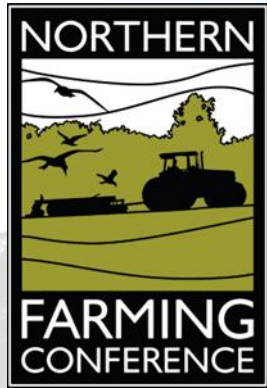
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**Lunch Break**





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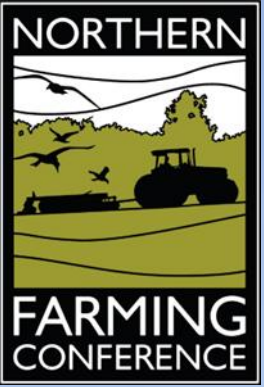
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# Matt Wallace

Northern Farming Conference  
Committee Vice Chair

Agricultural Relationship Manager  
HSBC





# Panel Questions

Facilitated by

**Jenny Oglesby**

Farm Trader & Small Seed Lead, ADM

[Link to Speaker Bio's](#)

# Farmer Panel

## Duncan Morrison

Livestock (Aberdeen Angus) farmer,  
Aberdeenshire

## Graham Rutherford

Northumberland beef and lamb farmer,  
Longhorsley

## Helen Marsden

Livestock farmer, Dumfriesshire

## Thomas Todd

Farmer at Barelees Farm,  
Cornhill on Tweed



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Northern Farming Conference  
Committee Vice Chair

Agricultural Relationship Manager  
HSBC



# Kat Thorne

The Morning Gamechanger



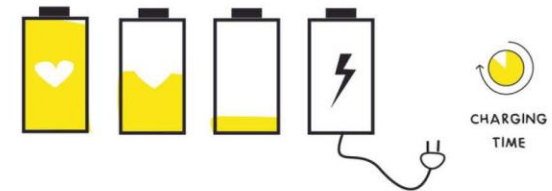
# One small habit changes your day.

*Kat Thorne*  
**THE MORNING GAMECHANGER**

WHEN WE SHOULD TAKE CARE OF OURSELVES



WHEN WE ACTUALLY DO



**Imagine the feeling  
you would experience after being  
on a week's holiday...**

**Now imagine how long that  
feeling would last for...**

*Kat Thorne*  
**THE MORNING GAMECHANGER**

**What if there was a way to  
experience that  
energy, positivity and resilience  
for the other 51 weeks of the  
year?**

**Many  
organisations are  
working hard to  
improve employee  
performance and  
resilience.**

**But PEOPLE are  
still stressed....  
94% of them.**

**The UK scored second worst out of 71 countries for mental wellbeing in the latest global findings.**

MENTAL STATE OF THE WORLD REPORT, 2023

# What was your first thought you had this morning?



A word cloud of common morning thoughts. The words are arranged in a roughly circular shape, with the most frequent or prominent thoughts in the center. The words include:

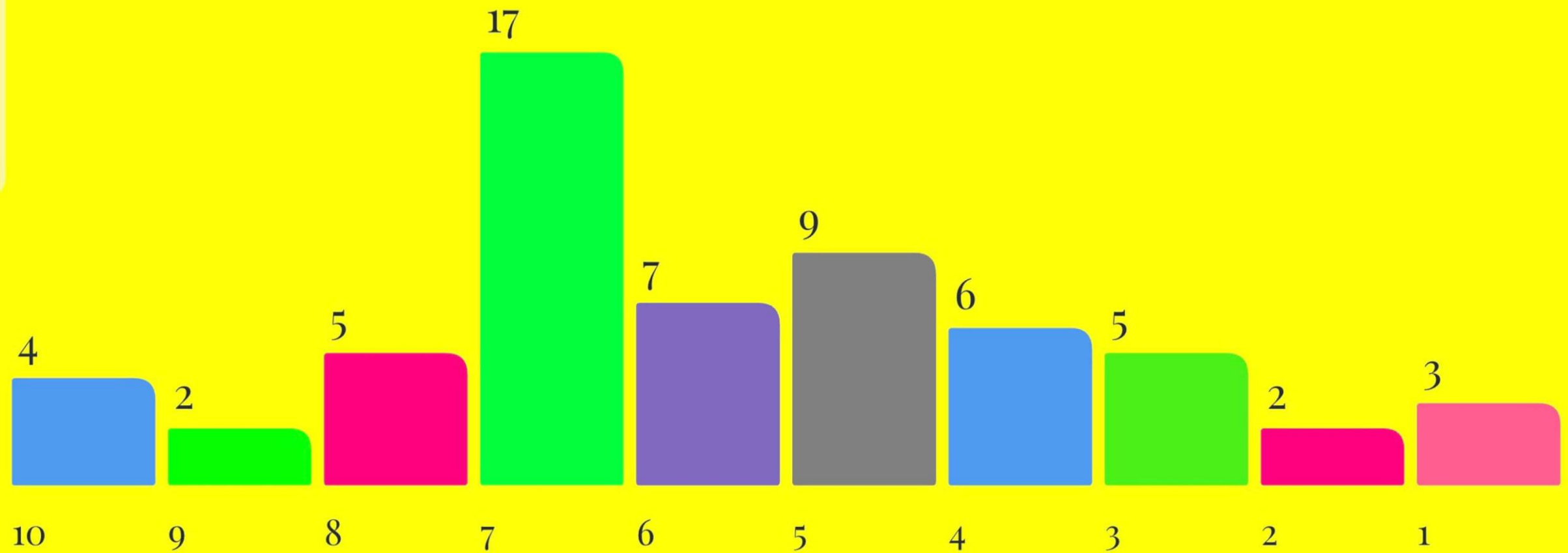
- urgh still tired
- shit is that the time
- i have no milk for my cof
- problematic emails
- pissing it down dog walk
- wordle
- im going to be late
- did i get enough sleep
- i dont want to get up
- are the children awake
- what day is it
- where am i
- has my sons flight landed
- do i have to get up now
- still tired
- here we go again
- what will today bring
- oh no
- dont forget
- what time is it
- has anyone famous died
- another day
- snooze
- do i need make up
- exhausted
- alarm already
- nightmare
- not again
- plan for the day
- elderly parents
- too tired
- great firework display
- family members
- need to exercise now
- need to do the gym
- what do i need to do
- work items not to forget
- is it raining today
- bacon
- which child is crying
- i need coffee
- get on my bike
- what to do first
- children
- coffee
- tea
- cows
- its ear

**Life is a rollercoaster.**

*Kat Thorne*  
**THE MORNING GAMECHANGER**

**The actual answer to a  
mentally strong and resilience  
workforce starts with  
one small positive habit change.**

# How well are you looking after yourself?



**The better people look after  
themselves the higher they  
perform at work and home.**



*Kat Thorne*  
**THE MORNING GAMECHANGER**

# Autopilot

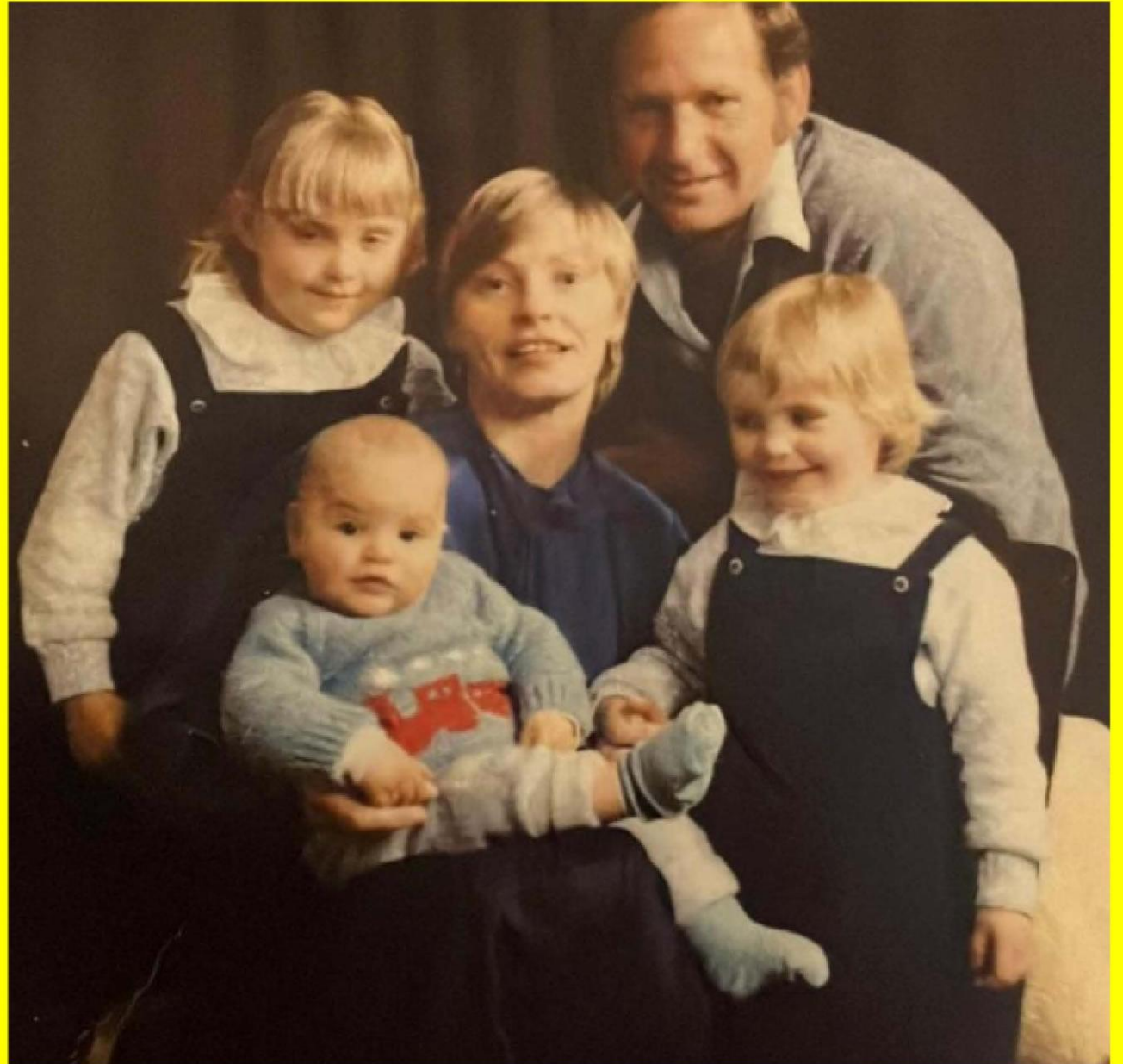


*Kat Thorne*  
**THE MORNING GAMECHANGER**

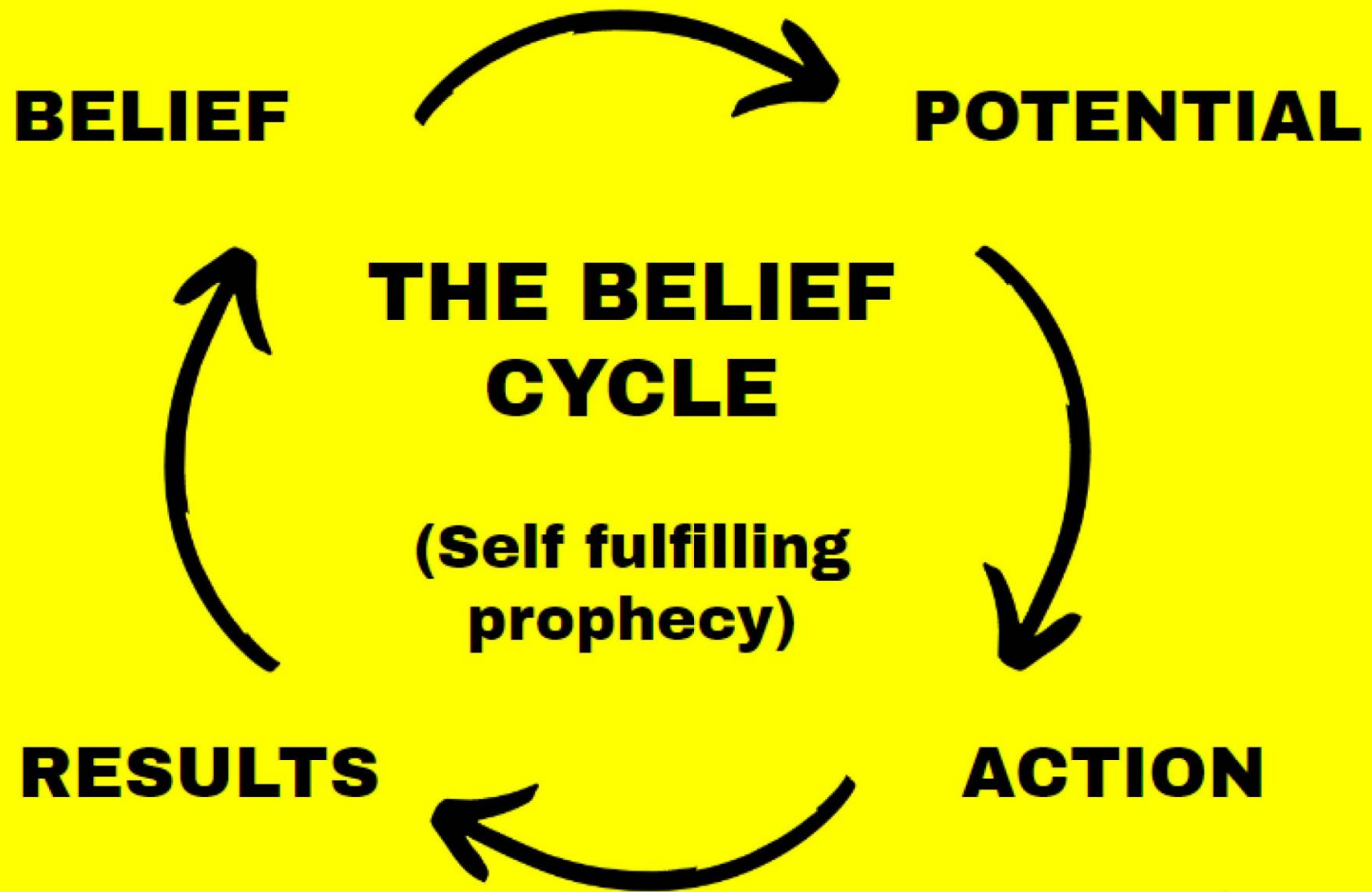
**Your life is the  
result of your habits.**

*Kat Thorne*  
**THE MORNING GAMECHANGER**

**Where it all  
starts...**



*Kat Thorne*  
**THE MORNING GAMECHANGER**



# Self-limiting beliefs



*Kat Thorne*  
**THE MORNING GAMECHANGER**

**Imagine a day in  
your life...**

## Which habits negatively impact your energy and performance?



Kat Thorne  
THE MORNING GAMECHANGER

# Which habits positively impact your energy and performance?



**What you  
can control**

**What you  
can't control**

**Did you know **80%** of people who own smartphones check their devices within 15 minutes of opening their eyes?**



# The 10 minute habit advantage

*Kat Thorne*  
**THE MORNING GAMECHANGER**

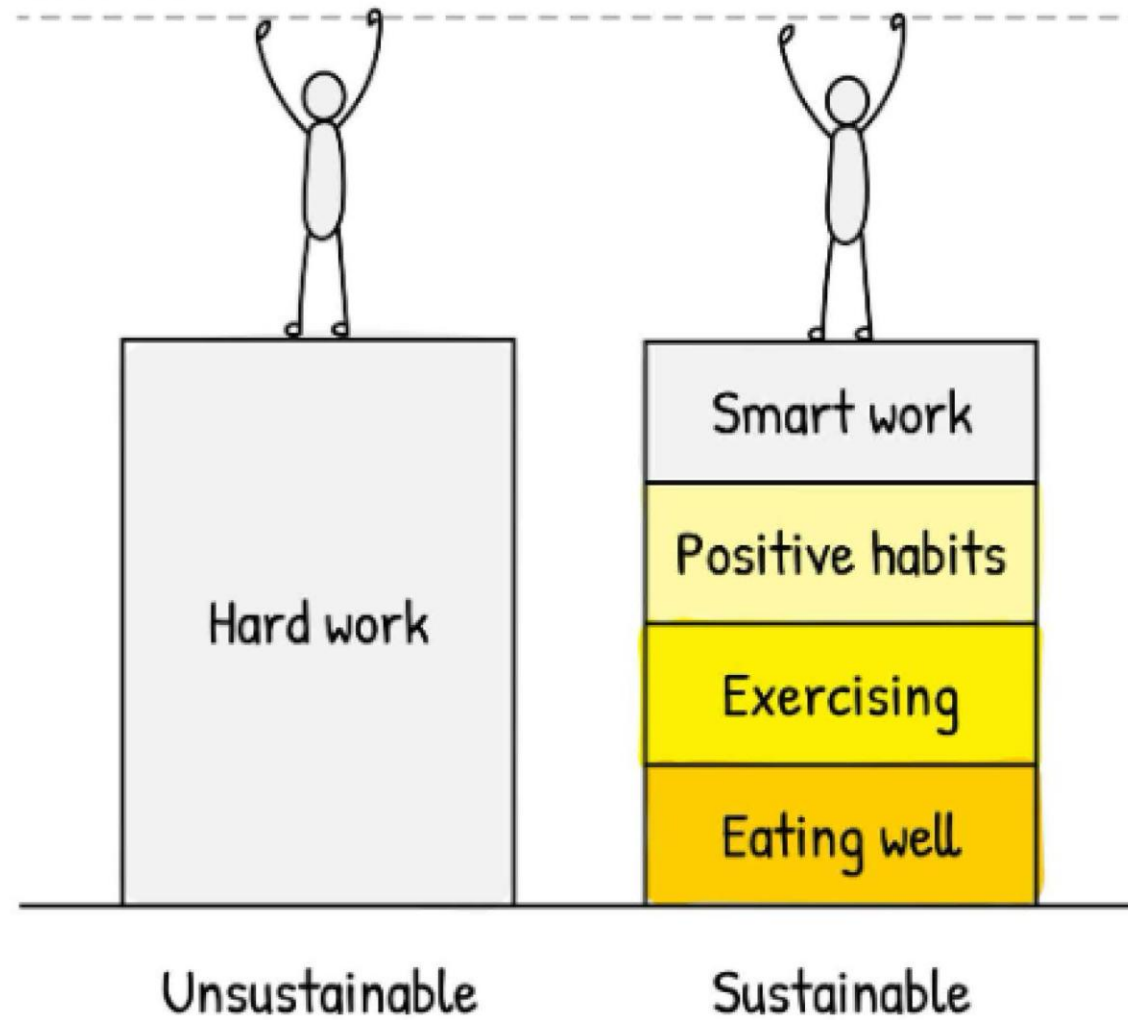




**Sharp  
Energetic  
Positive  
Productive  
Focused**

*Kat Thorne*  
**THE MORNING GAMECHANGER**

Success





Home for your phone



Read 10 mins



Healthy breakfast



10 mins of movement



Set bedtime

**One  
small  
habit  
change**

# What is the one small habit change you'd like to make?

Less screen time

10 minute kitchen disco

10 minutes of movement

10 minute run

1 minute plank

Eat cake

Chris Hemsworth

Early bedtime

Less alcohol , more exercise

Food

Home for phone

Reading before bed

Eat more fruit

Exercise

Phone out of bedroom

# What impact do you think it will have?

Feel brighter

Better abs

Better sleep, less anxiety

Give me a sense of achievement

More energy

Feeling good

More energy

More energy

Less sluggish

Happy wife happy life

I'll be happier

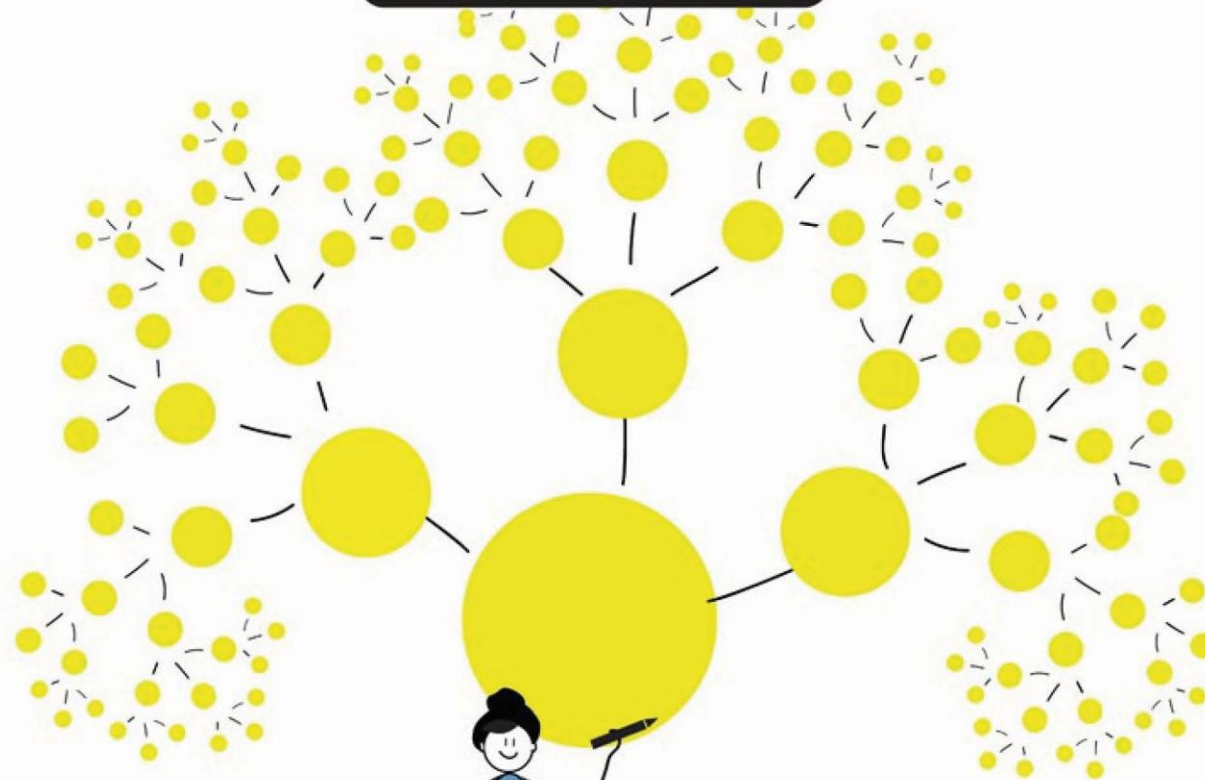
More energy.

Healthier lifestyle and work life

Will live longer

More focussed

THE POWER OF ONE SMALL  
POSITIVE HABIT CHANGE



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Kat Thorne  
**THE MORNING  
GAMECHANGER**

**THE BETTER PEOPLE LOOK AFTER  
THEMSELVES THE HIGHER THEY  
PERFORM AT WORK AND HOME.**

# ONE SMALL CHANGE IMPACT



**One Small Habit = 15% increase in productivity**

 **Priority List = 20%**

  **Movement = 20%**

 **30 second cold shower = 30%**

 **Digital detox before bed = 30%**



**One small habit will change your day.**

**Your week.**

**Your month.**

**Your year.**

**Your life.**

**You only get one.**



**Kat Thorne**



**the\_morning\_gamechanger**

*Kat Thorne*  
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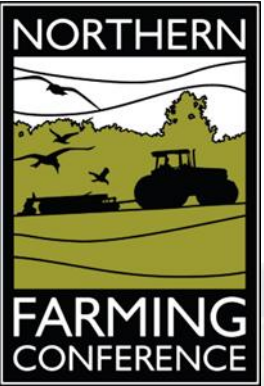
**LET'S BUILD A  
RESILIENT.  
FOCUSED.  
HIGH-PERFORMING  
TEAM.  
TOGETHER.**



**SCAN ME**



*Kat Thorne*  
**THE MORNING GAMECHANGER**



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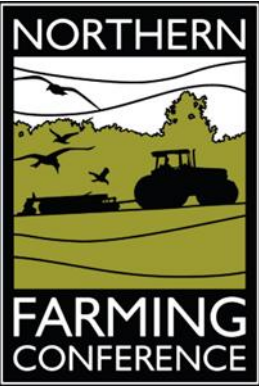


**Thank you**

**Samantha Charlton**

**Northern Farming Conference  
Committee Chair**

**Beef & Lamb Sector Director  
AHDB**



# Thank You For Attending