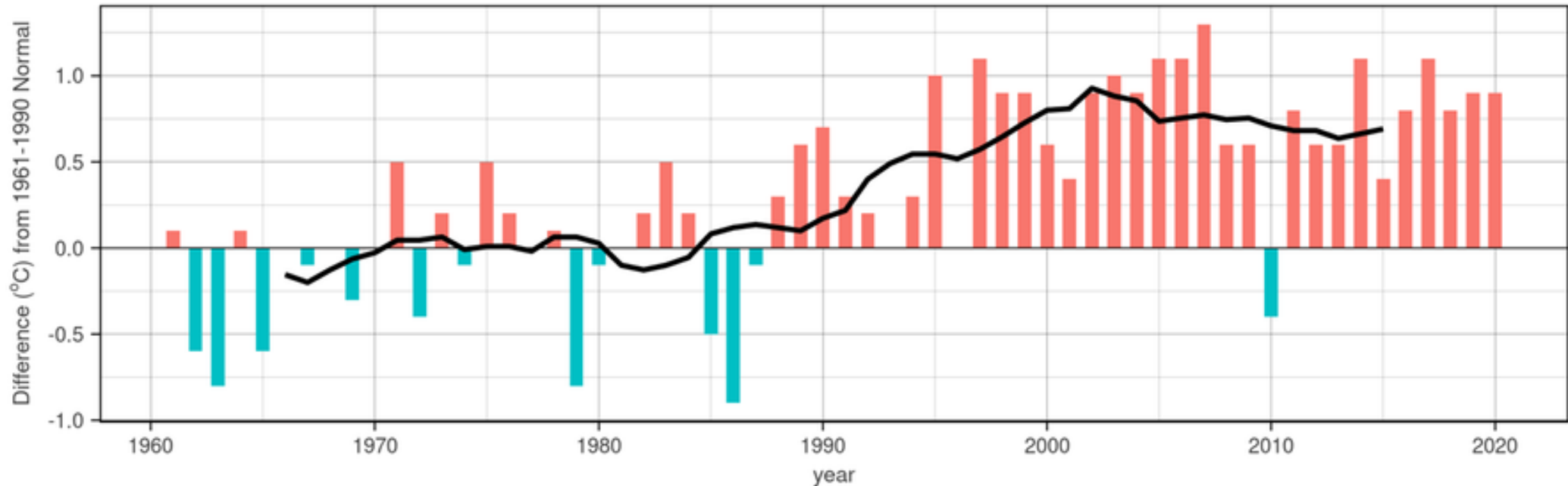


Signpost Conference and General Assembly Highlights

Tom O'Dwyer,
December 2024



Annual variability in mean air temperature from 1961 to 2020



The difference between annual mean temperatures for each year from 1961 to 2020 and the 1961-1990 LTA. The solid line is an 11-year rolling average of the temperature anomaly

On an annual basis there has been an increase of $0.22^{\circ}\text{C}/\text{decade}$

Progress made on Signpost Dairy Farms



Climate mitigation technology	Signpost Dairy (n = 42)			All Dairy Farmers (NFS)		
	2021	2022	2023	2021	2022	2023
Protected urea, as % of total fertiliser N	44%	51%	67%	11%	18%	27%
Fertiliser N use, kg/ha	201	176	160	168	156	145
Change in fertiliser N use, kg/ha (%)		- 25 (-12%)	-16 (-9%)		-12 (-7%)	-11 (-7%)
Lime applied, tonnes per hectare	0.72	0.93	0.75	0.55	0.53	0.43
Proportion of slurry applied using LESS, %	91%	99%	100%	68%	77%	81%





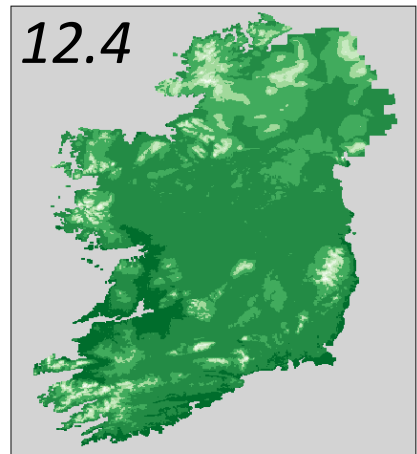
Putting Technologies into Practice

John & Brendan Walsh,
Winners of the Teagasc FBD
Environmental Sustainability Awards 2024

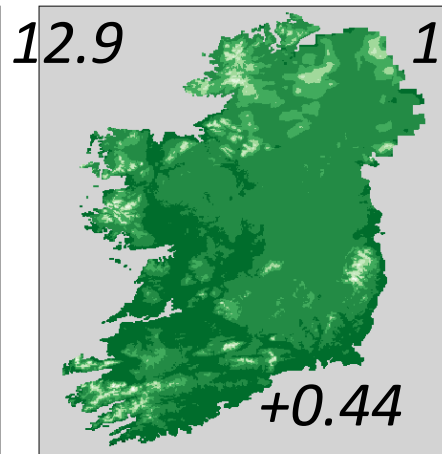


Annual grass growth

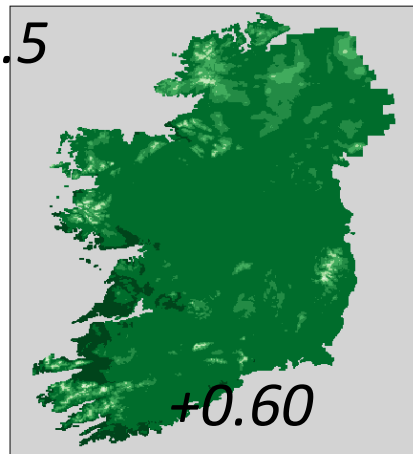
1976–2005
t DM/ha



1.5 °C warming
t DM/ha



3 °C warming
t DM/ha



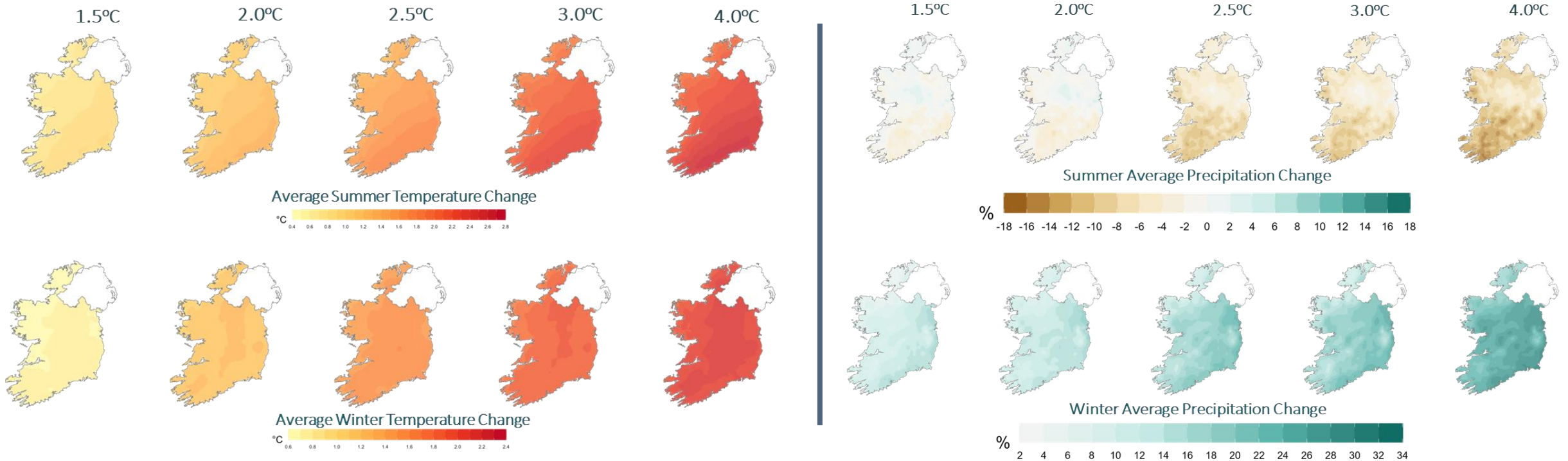
Climate change looks positive!

- More growth everywhere
- Growth keeps increasing from 1.5°C to 3.0 °C

But when is the increase in growth?

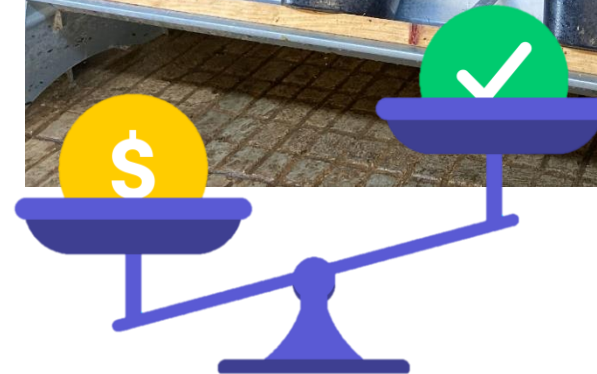
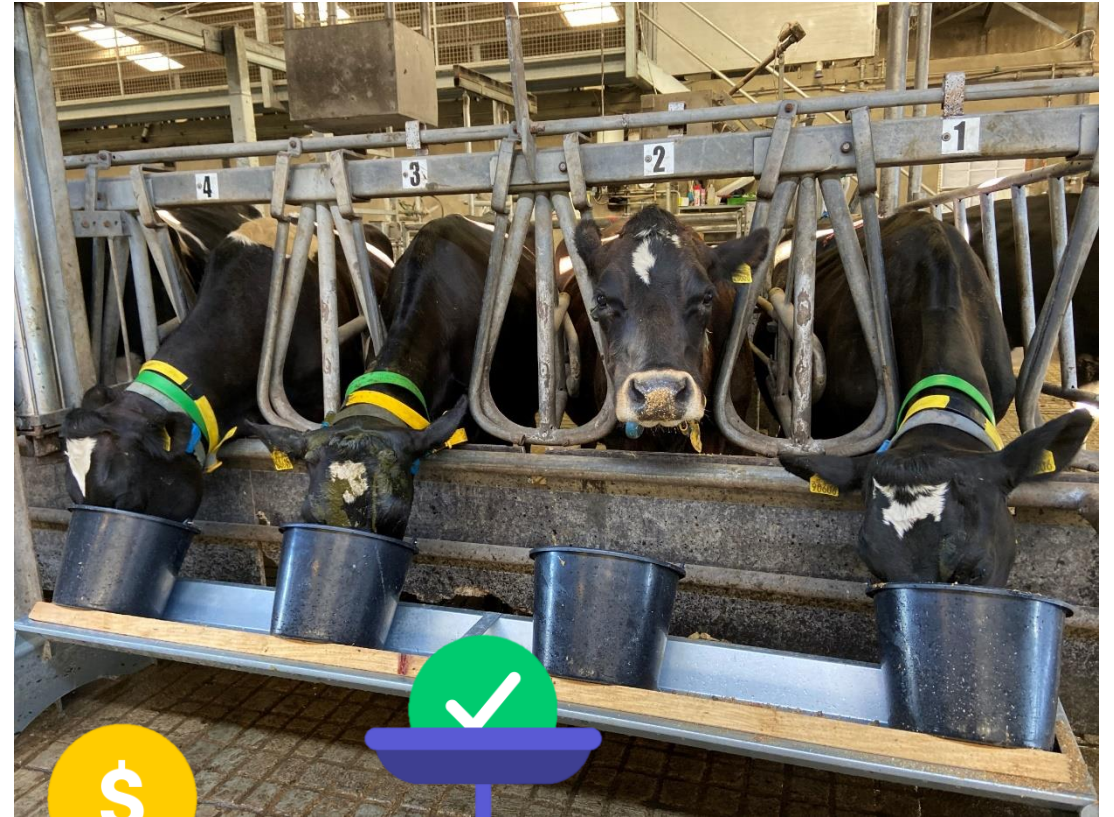
Results:

- A greater chance of hotter and drier Summers
- A greater chance of warmer and wetter Winters



Future Feed Additive Research

- Continue evaluating promising feed additives
 - Practicality
 - Delivery
 - Slow release mechanisms
 - Residues
 - Life cycle assessment
 - Cost/Business model



Progress on finishing age since 2018



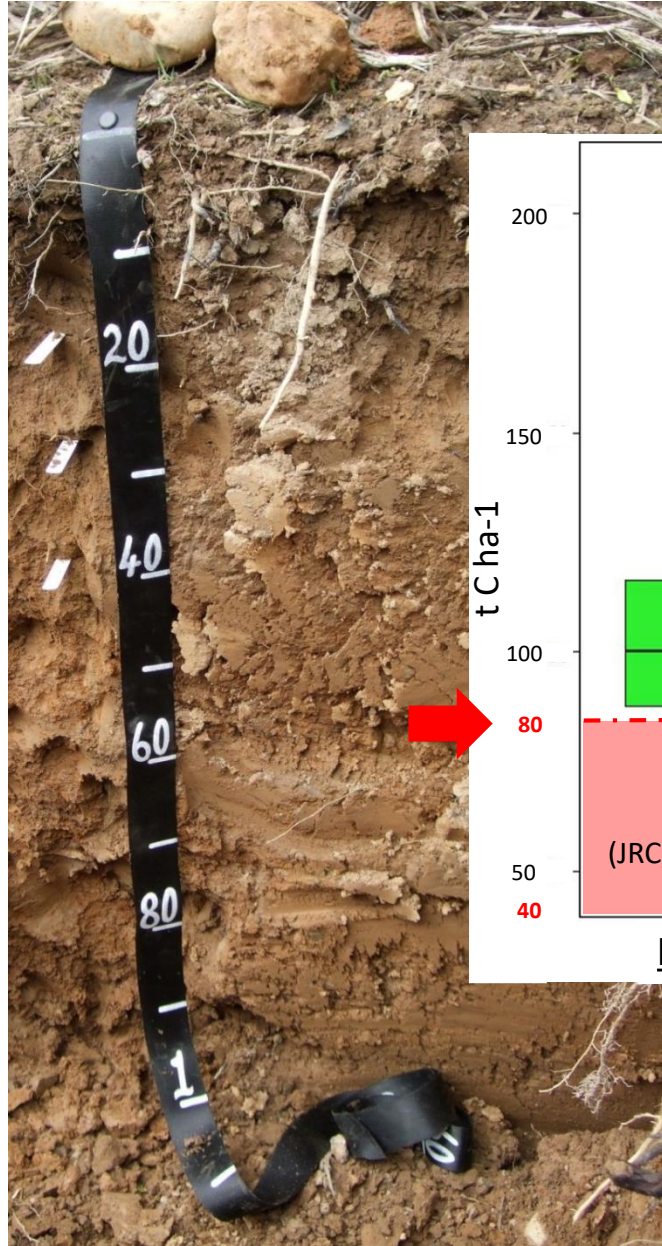
	<u>2018</u>			<u>2022</u>			<u>2023</u>		
	#	Age (months)	Carcass weight (kg)	#	Age (months)	Carcass weight (kg)	#	Age (months)	Carcass weight (kg)
Heifers	455225	26.0	309	479255	25.6	309	451473	26.0	305
Steers	629128	27.9	349	676431	26.8	349	635636	27.3	344
Bulls	185006	19.4	370	125836	19.1	369	104238	19.1	364
Total	1269359	26.0		1281522	25.6		1191347	26.1	

Warmest year, wettest month, stormiest season: How Ireland's weather in 2023 broke records

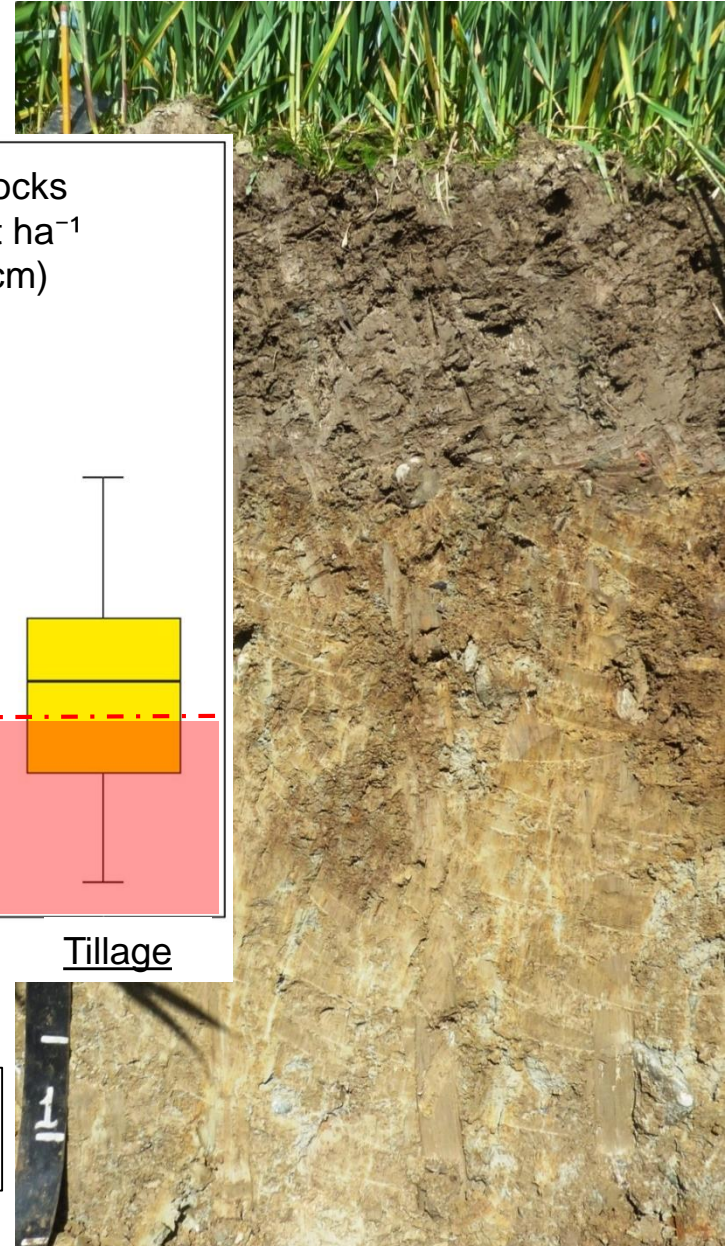
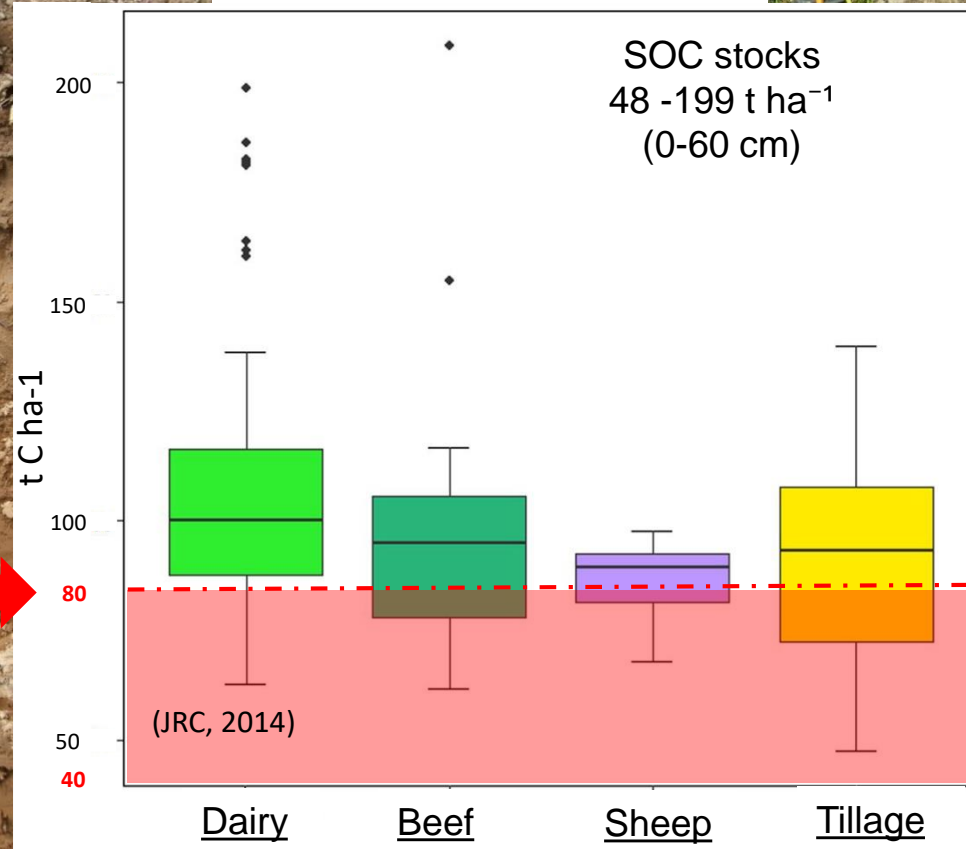
- Ireland in 2023 saw many unseasonal and intense conditions, a slew of storms and even a tornado
- March was the wettest March on record, July was the wettest July
- Meanwhile, June was the warmest June on record with temperatures never dipping below 16C

Deep Soil Sampling – Preliminary Results

Soil C Stocks in depth



Farm System differences



SOC below 30 cm ranges between 20-30 %

Take home 2



This wide hedgerow with trees contains 16.2 tons of Carbon

This low cropped hedgerow contains 4.1 tons of Carbon

Estimating carbon inputs from cover crops

Aboveground cover crop biomass	3 t DM/ha
Root biomass	0.9 t DM/ha
Total biomass	3.9 t DM/ha
Carbon content of biomass (43 % C)	1.68 t/ha C
Assume 20 % retention	335 kg/ha C
SOC increase of 0.01% per year	e.g. 3% to 3.01%

Thank You.

