

# Third Legume Innovation and Networking Workshop

## Using legumes to lower fertilizer N usage



James Humphreys Teagasc

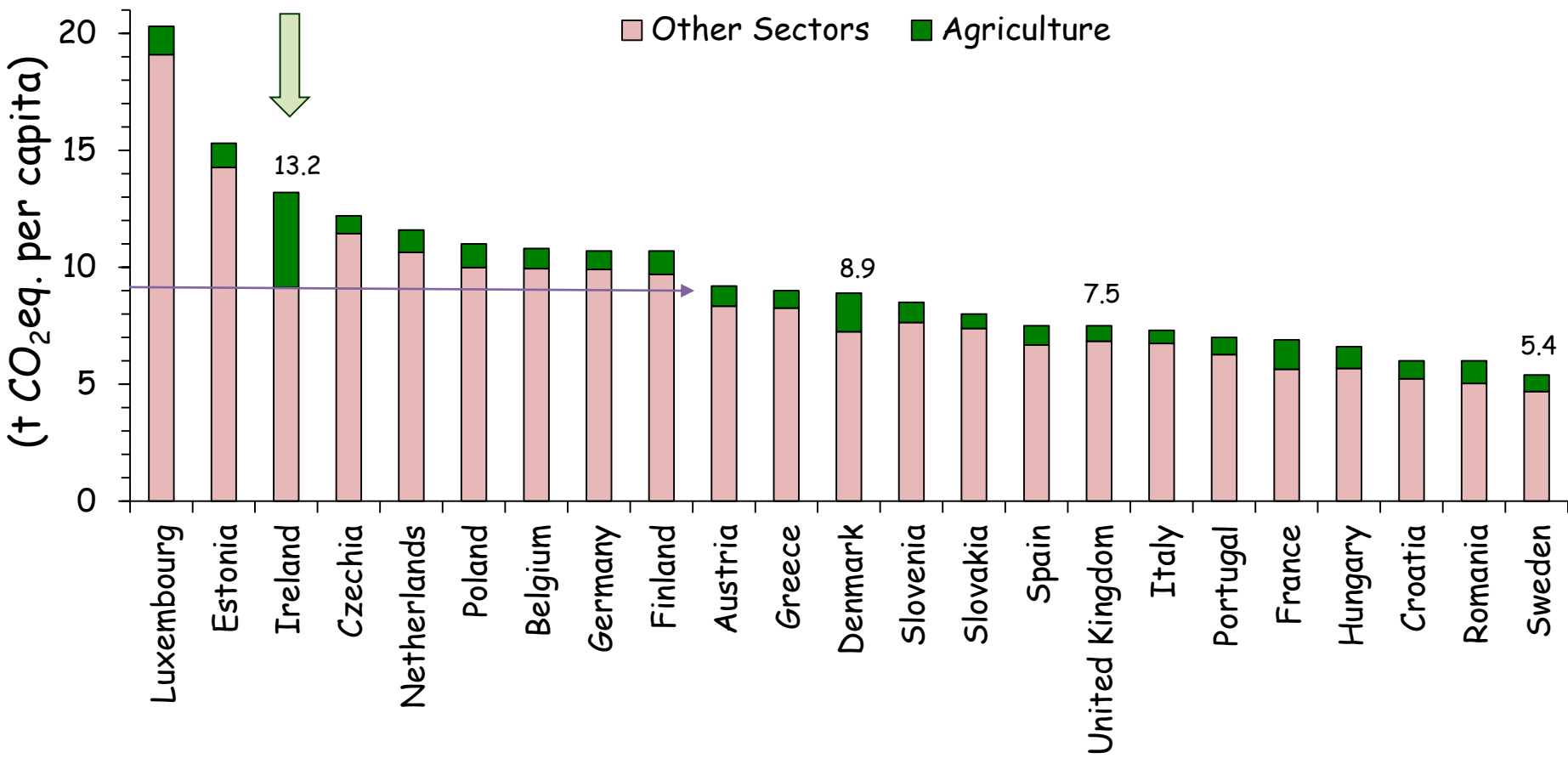


Transition paths to sustainable legume-based systems in Europe

<https://www.true-project.eu/>



# Greenhouse gas emissions per capita in selected European countries



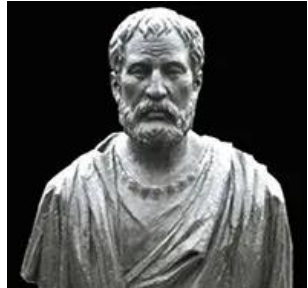


Grassland based agriculture  
>90% of dairy, beef and sheep products are exported



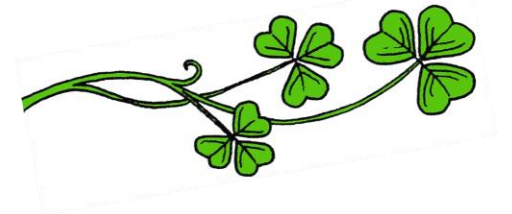
## Land use in Ireland in 2020 and 1850 (000 ha)

	Grassland	Cropland	Peas & Beans
2020	3645	350	8
1850	3440	1420	



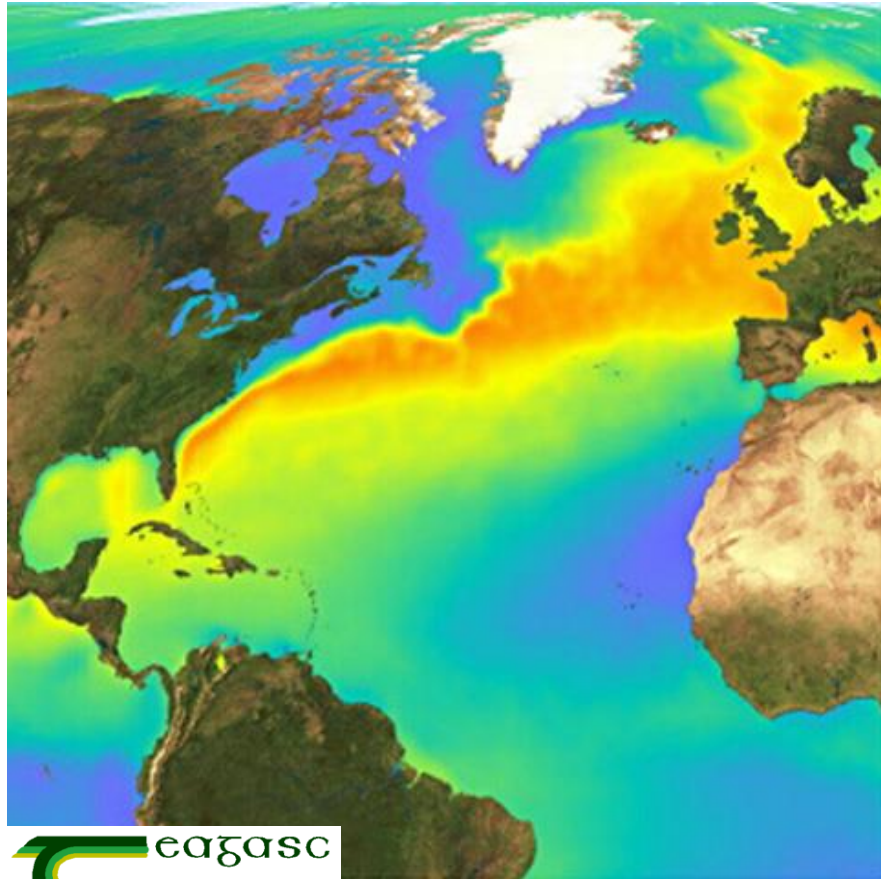
Pomponius Mela

Circa AD 43: the climate of Ireland is unfavourable for grain  
Grass grows so richly that cattle burst if unrestrained from eating it





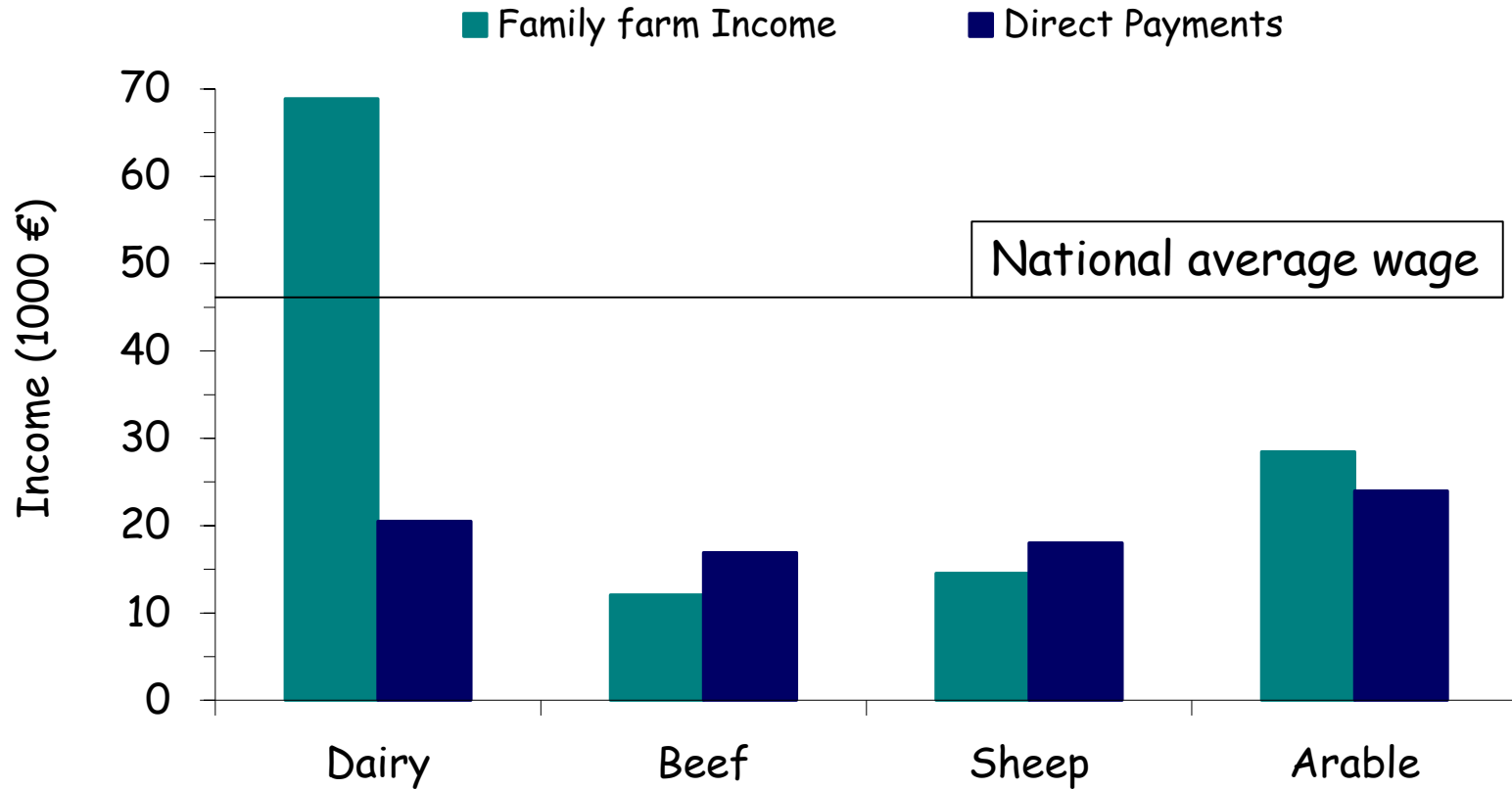
# Climate of Ireland



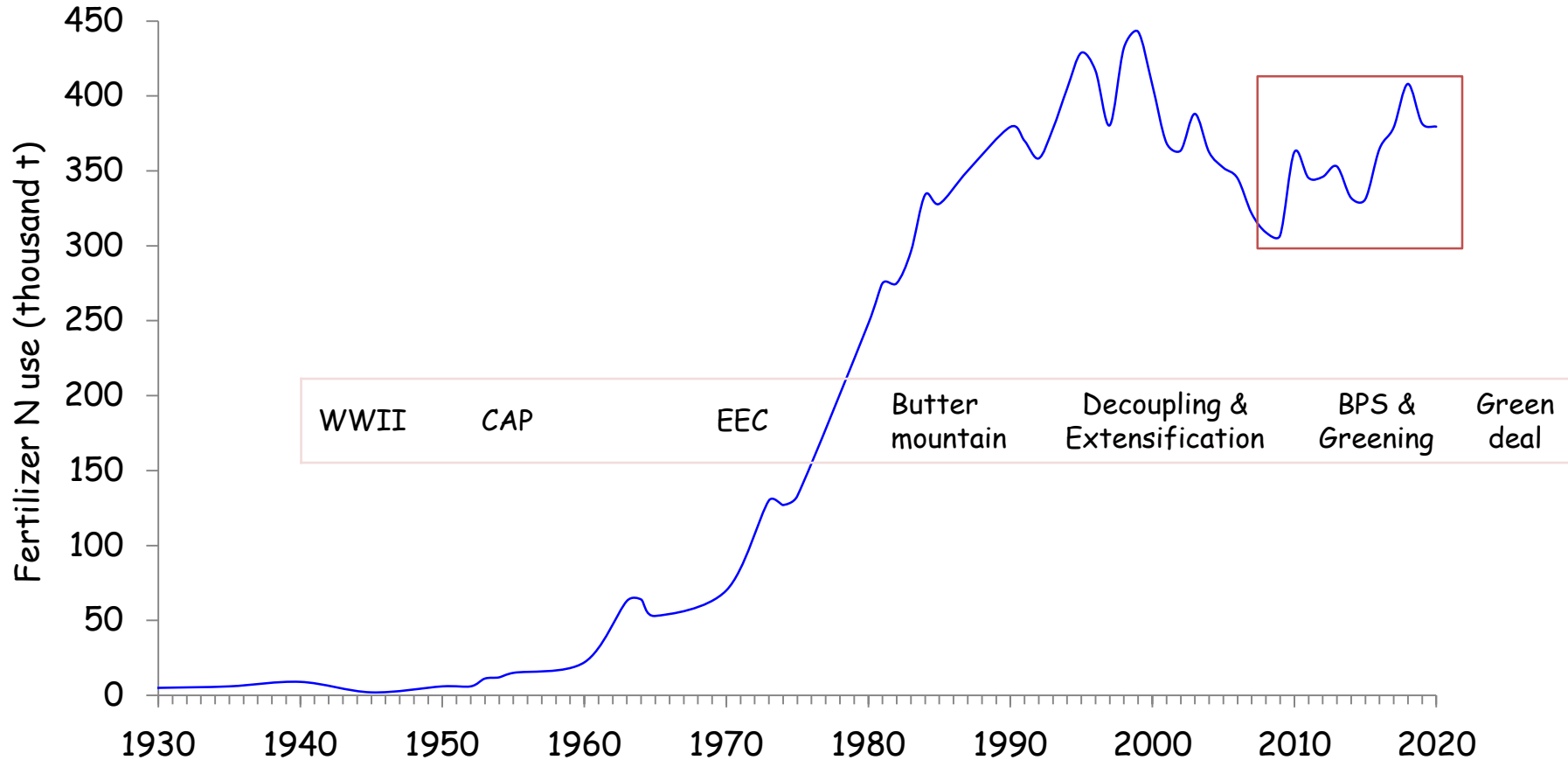
Mean Temperature (°C)	Jan. 5.4	July 14.7
Annual rainfall (mm)	<800	>1200
Evapotranspiration (mm)	450	500



# Family farm income and direct payments on Irish farms (Teagasc National Farm Survey 2019)



# Fertilizer N use in Ireland since 1930









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# Acknowledgements



## Farmers

Allan Navratil

Jim Tait

Michael Gowen

## Speakers

Prof. Bob Rees, SRUC

Elaine Leavy, Teagasc

Michael Hennessy, Teagasc

Dave Barry, Goldcrop

Liam Leahy, Dairygold

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