

Third Legume Innovation and Networking Workshop

Using legumes to lower fertilizer N usage



James Humphreys Teagasc

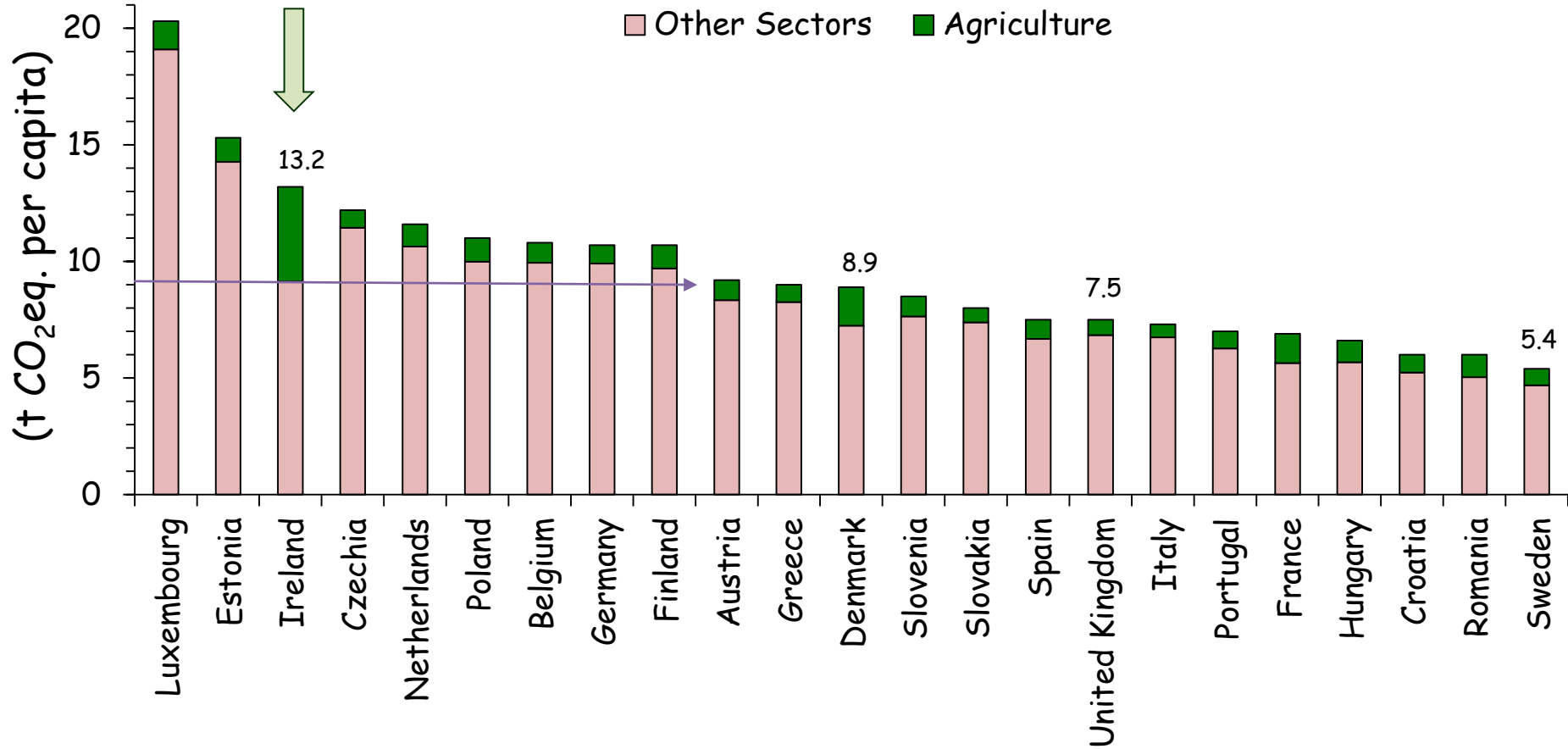


Transition paths to sustainable legume-based systems in Europe

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



Greenhouse gas emissions per capita in selected European countries



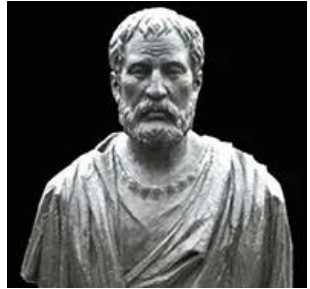


Grassland based agriculture
>90% of dairy, beef and sheep products are exported



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

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

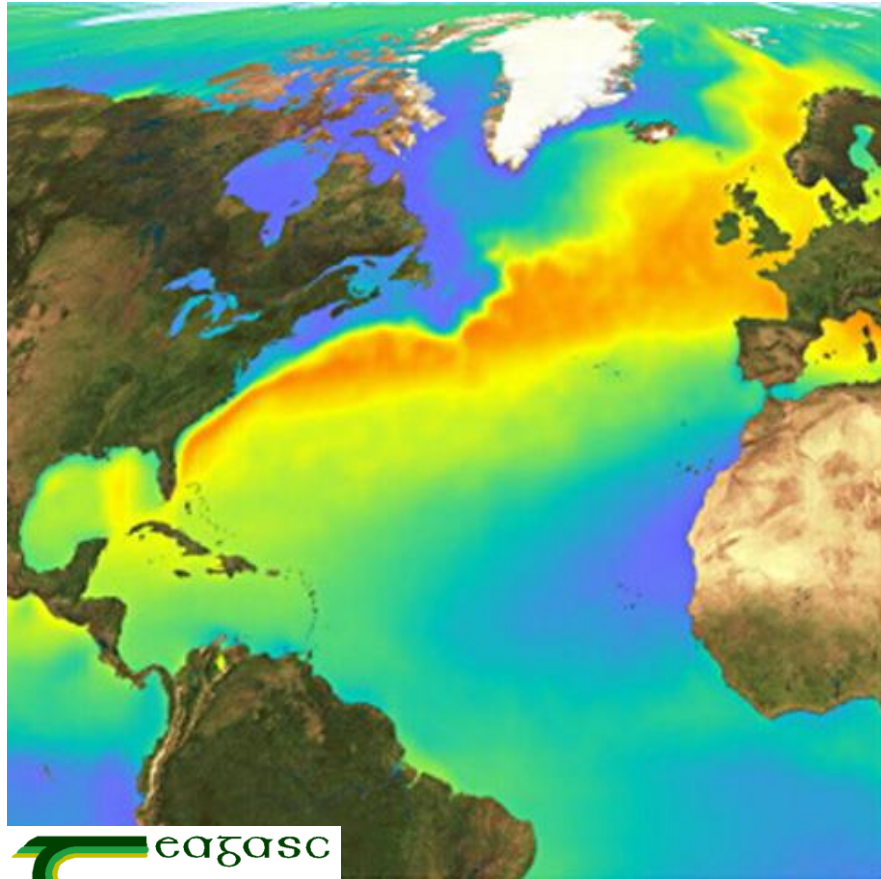


Pomponius Mela

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



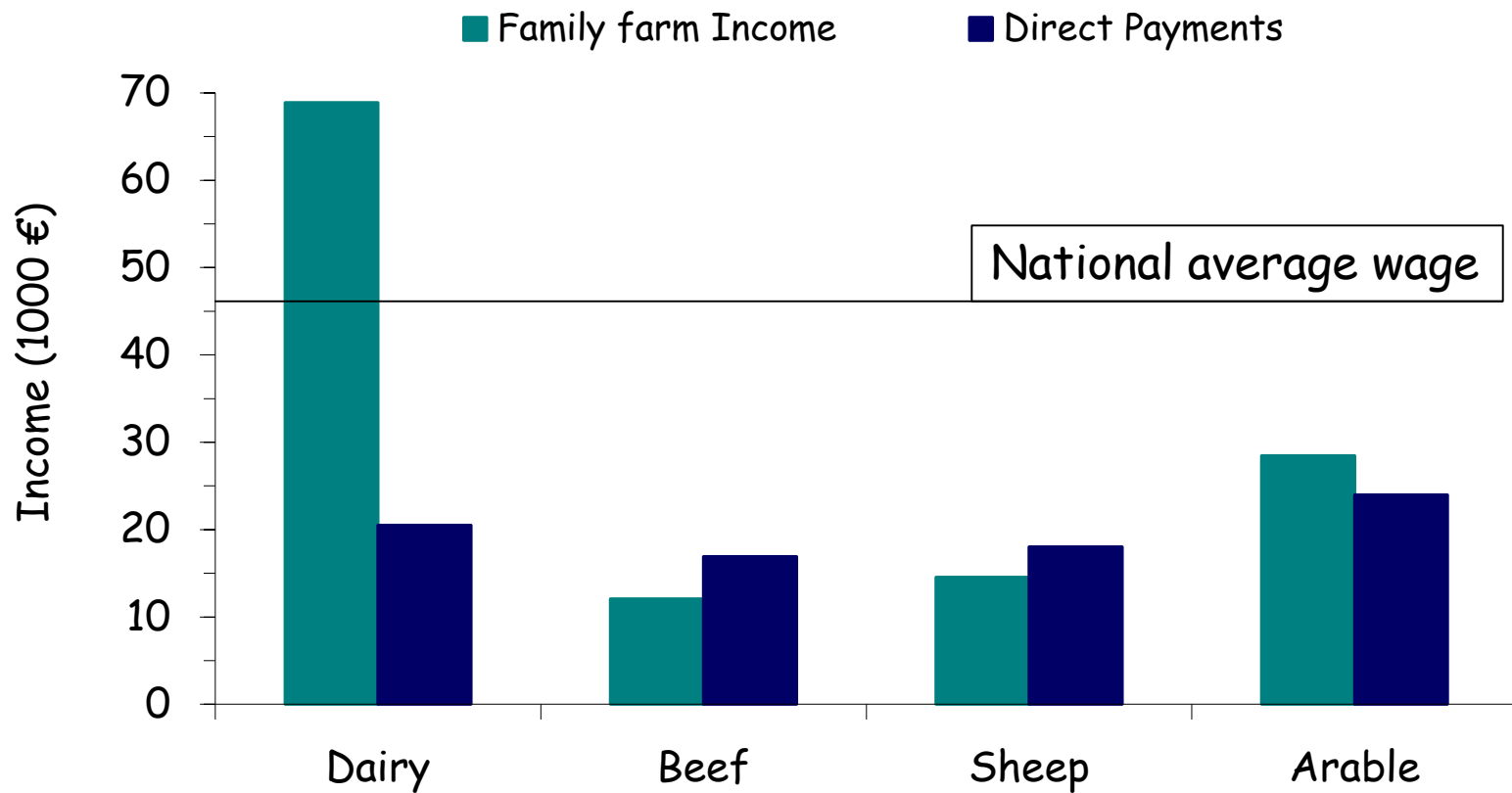
Climate of Ireland



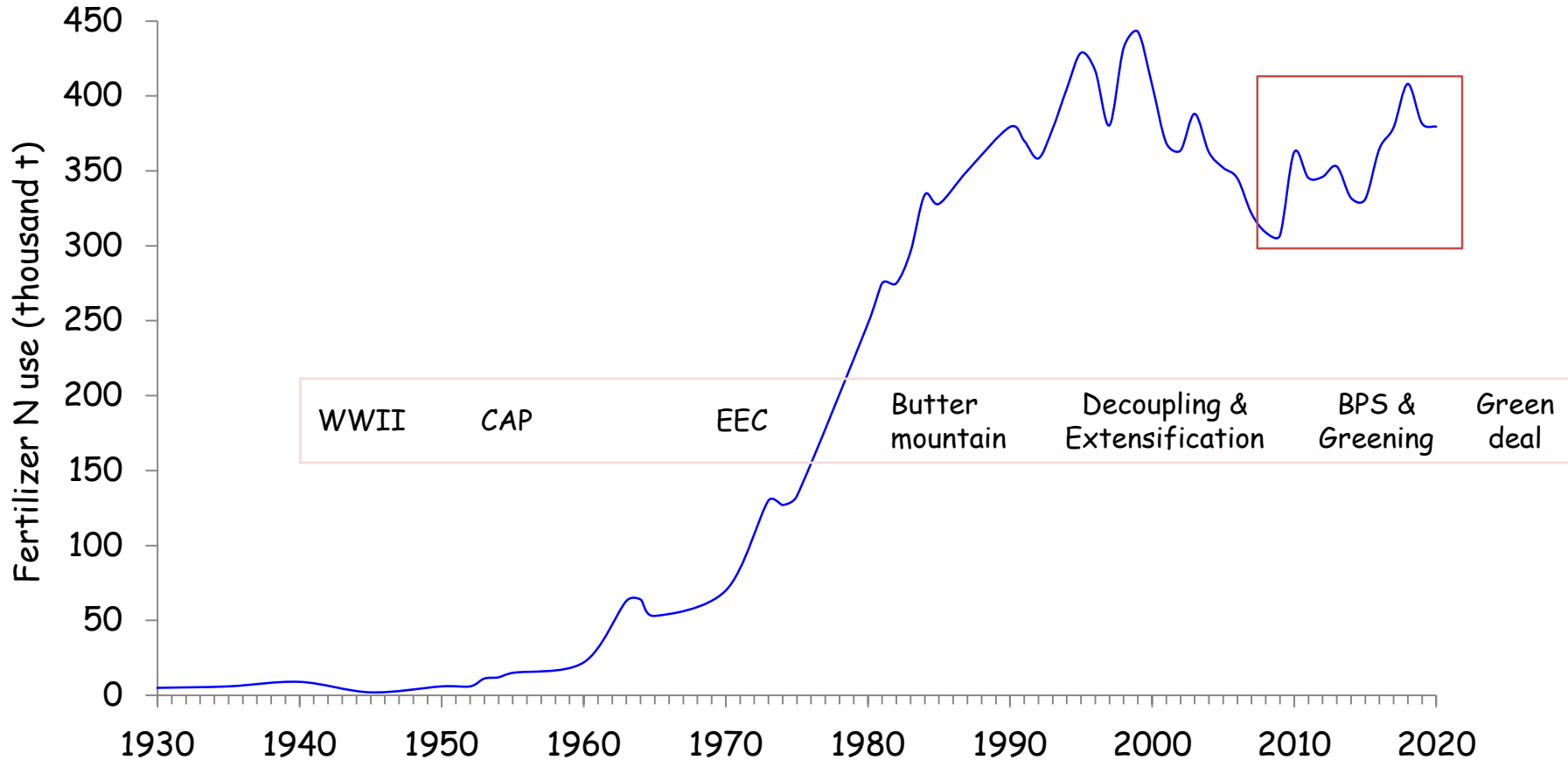
Mean Temperature (°C)	Jan. 5.4	July 14.7
Annual rainfall (mm)	<800	>1200
Evapotranspiration (mm)	450	500



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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Organizing committee

Mark Gibson, Teagasc

Andy Boland, Teagasc

Pete Iannetta, JHI

Henrik Maass, Uni Hohenheim

William Burchill, Teagasc

Owen Cashman, WIT

Dave Styles, UL

Mike Williams, TCD

Dan Clavin, ex. Teagasc

Teagasc

Declan McArdle, videos

Eric Donald, PR

Tara Guinan, webpage

Michelle Lavelle, PR

Alison Maloney, PR



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