

Economics and GHG emissions of Irish cattle systems

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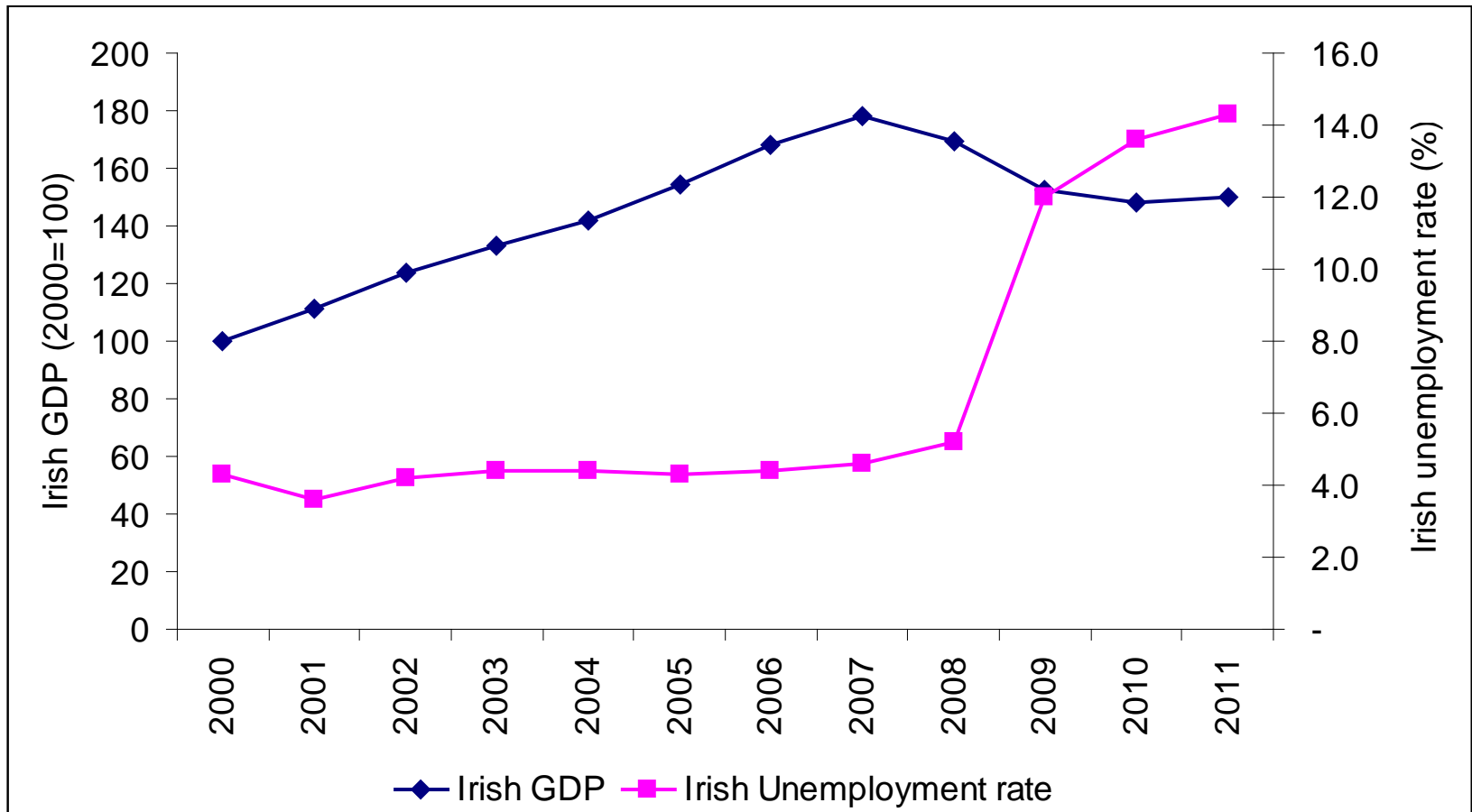
Outline

- Irish agriculture overview
- Structure of farms in Ireland
- Irish beef production systems
- GHG emissions from Irish beef systems
- Future perspectives for Irish cattle systems

Overview

- **Irish agriculture overview**
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Irish economy



Source: Irish Dept Agr, Fisheries and the Marine; Central Stats Office

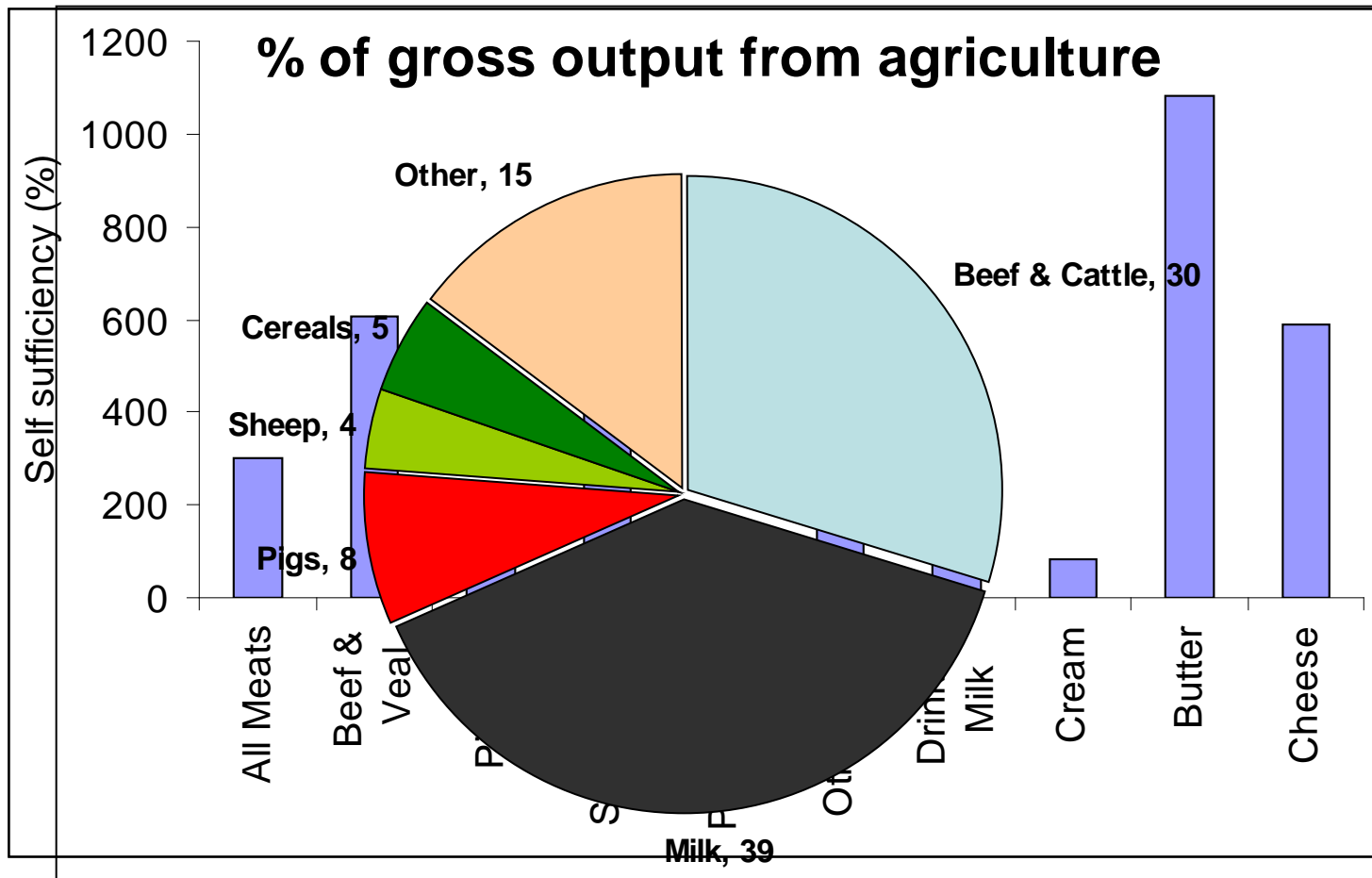
Agriculture's role in the Irish economy

Key Indicators for Primary and Agri-Food Sectors		
<i>Relevant Year in brackets.</i>	Primary Sector ¹	Agri-Food Sector ²
% of GVA at factor cost (2011)	2.7%	7.7%
% of employment (2012-Q4)	4.9%	8.0%
% of exports (2012)	7.2%	10.8%

Agriculture accounts for ~30% of net foreign earnings from the Irish manufacturing economy.

Source: Irish Dept Agr, Fisheries and the Marine; Central Stats Office

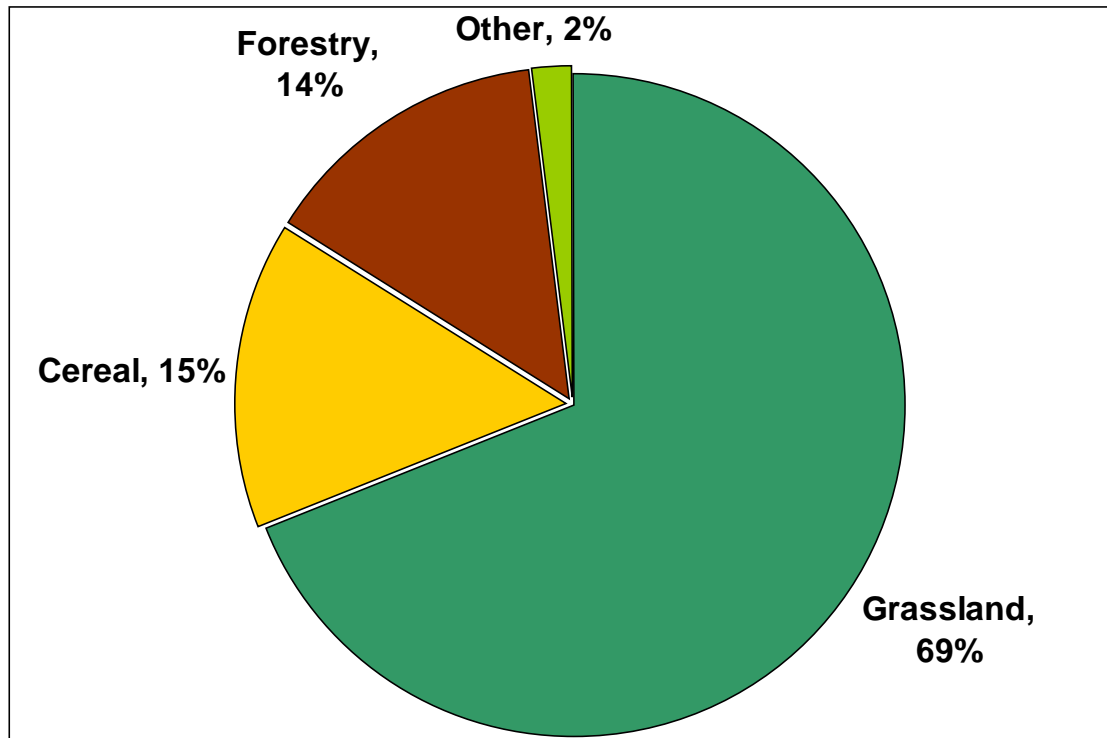
Export-led Agri-food sector



Source: Irish Dept Agr, Fisheries and the Marine; Central Stats Office

Land use

- Total land area 7 m ha (1/8 of France)
- 4.6 m ha for agriculture and 0.75 m ha for forestry



Source: Irish Dept Agr, Fisheries and the Marine; Central Stats Office

Overview

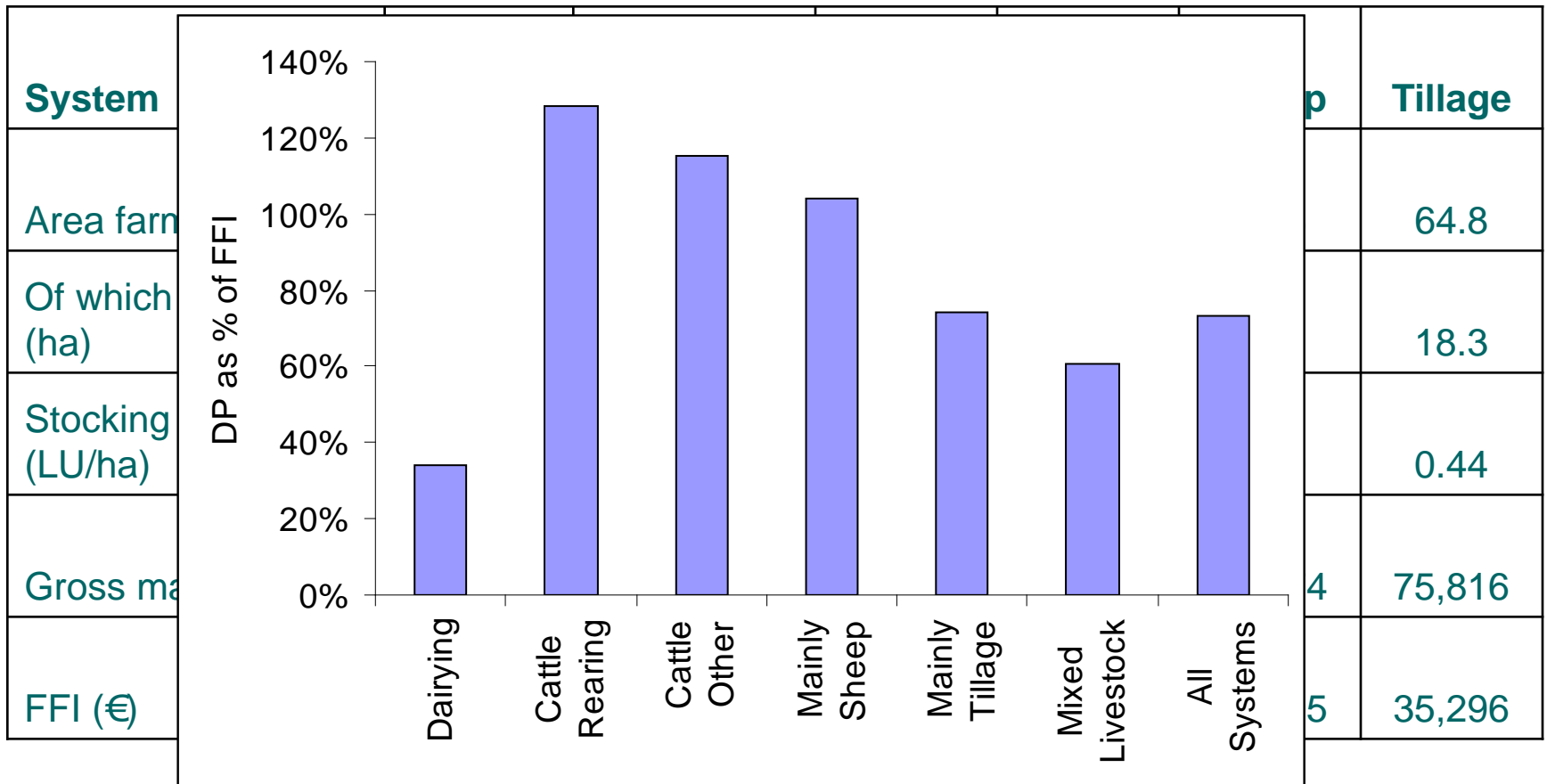
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Distribution of farms and cattle

System	Dairying	Mixed Livestock	Cattle Rearing	Cattle Other	Sheep	Tillage
% farming population	14.7	5.6	25.4	32.4	14.4	7.1
% of total cattle	35.0	24.3	11.7	14.7	6.4	8.0
% of dairy cows	71.0	29.0	-	-	-	-
% of suckler cows	2.7	10.9	40.0	18.3	16.0	12.1

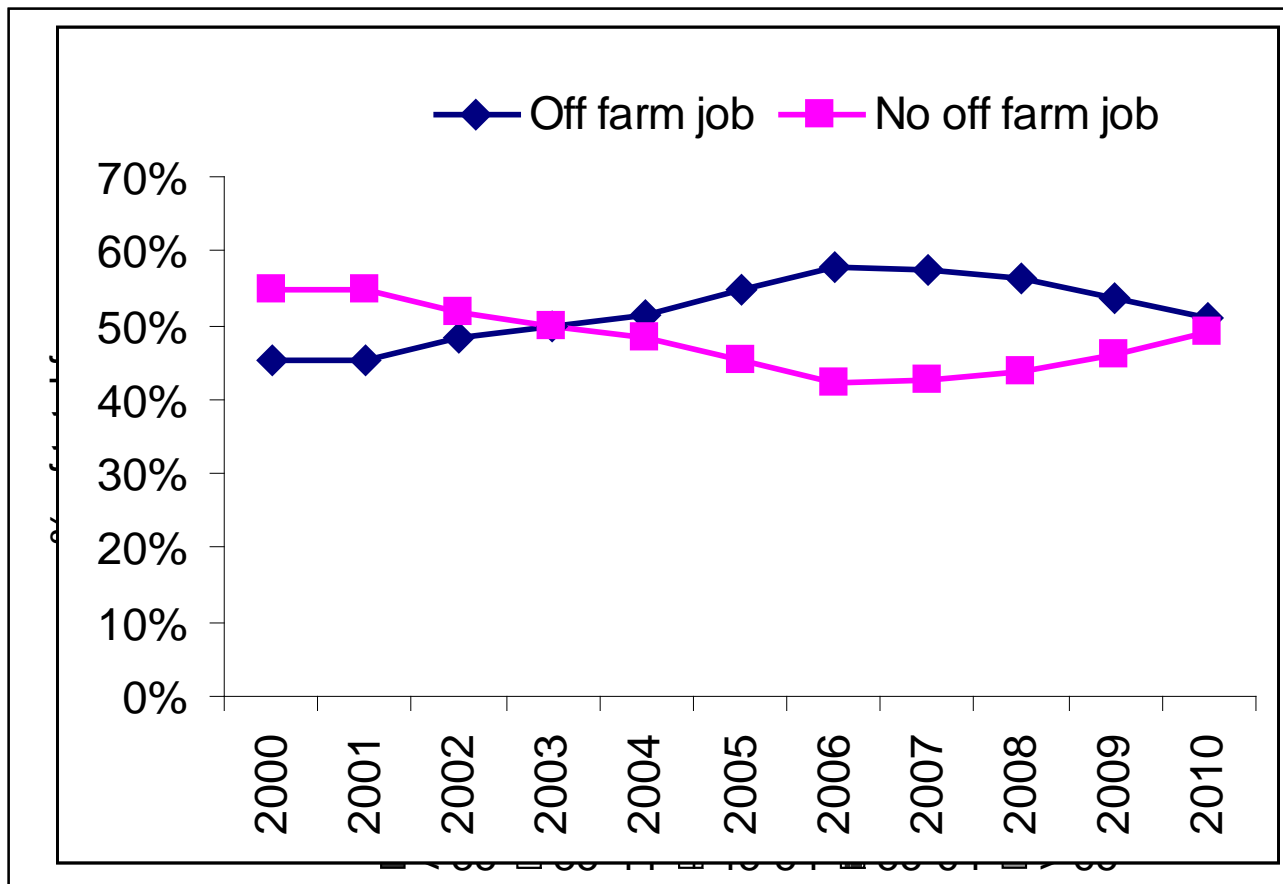
Source: Hennessy et al., 2012

Farm size & income



Source: Hennessy et al., 2012

Demographics



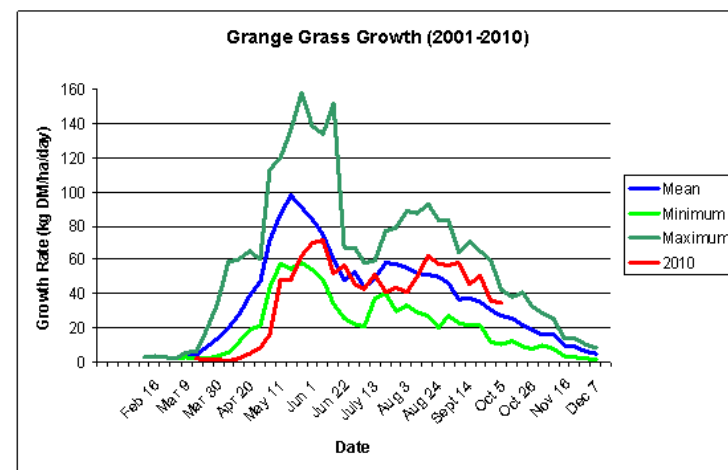
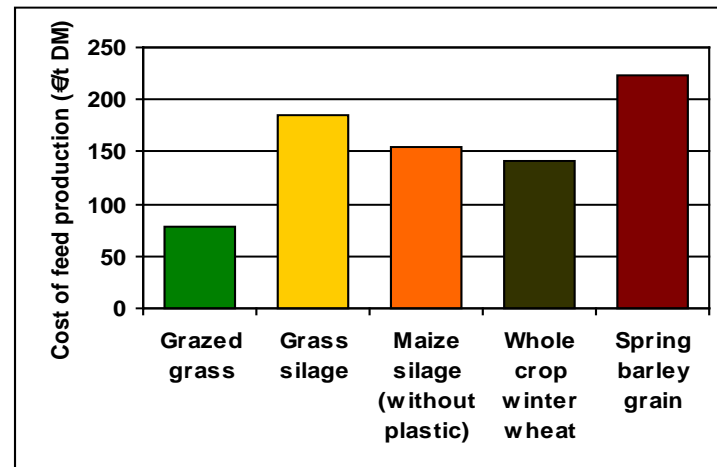
Source: Hennessy et al., 2012

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Production systems

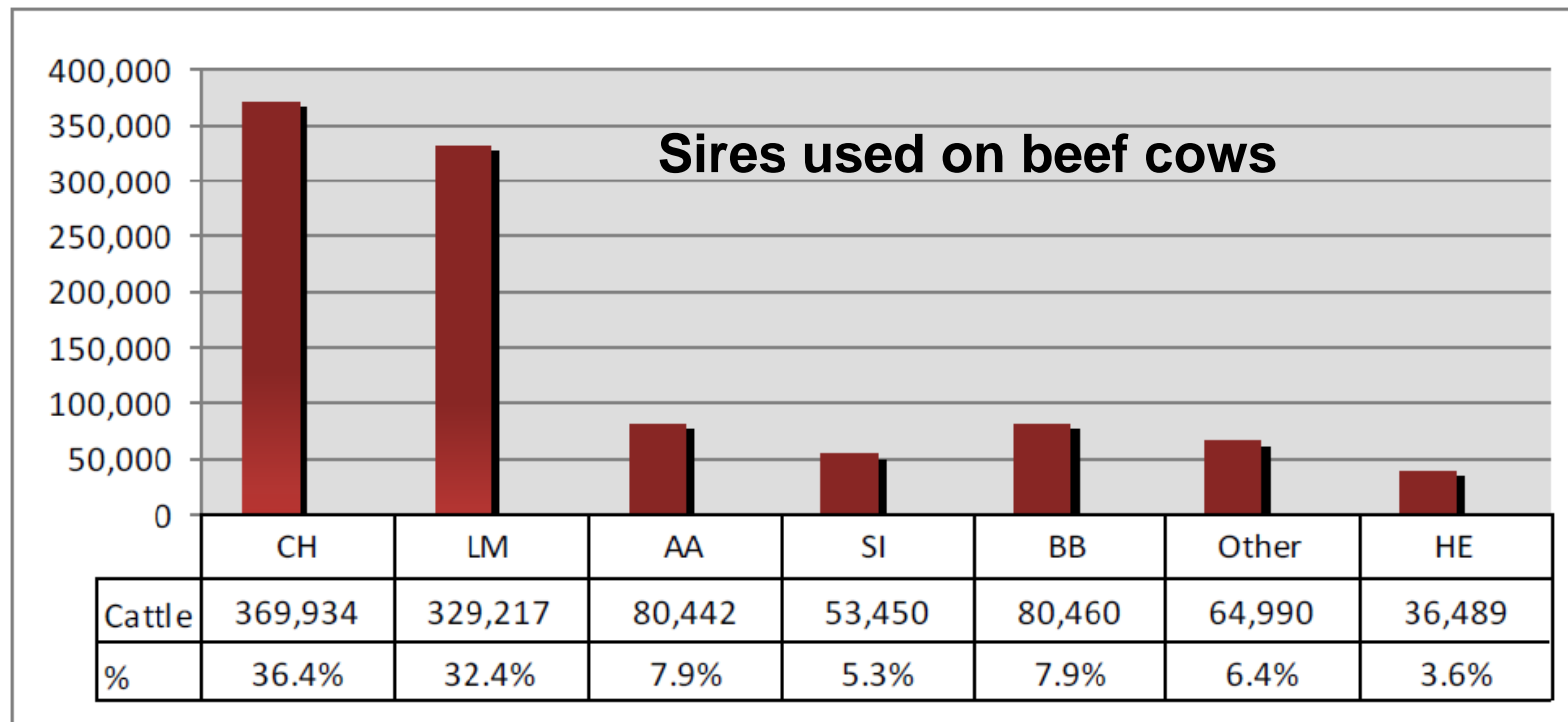
- Pasture based production systems
- Spring-calving (March-April)
- Continental crossbred cow & late-maturing sire of a different breed
- First calving at ~30 months of age
- Steers finished at ~28 months of age
- Heifers finished at ~24 months of age



Breeds

Suckler beef cows

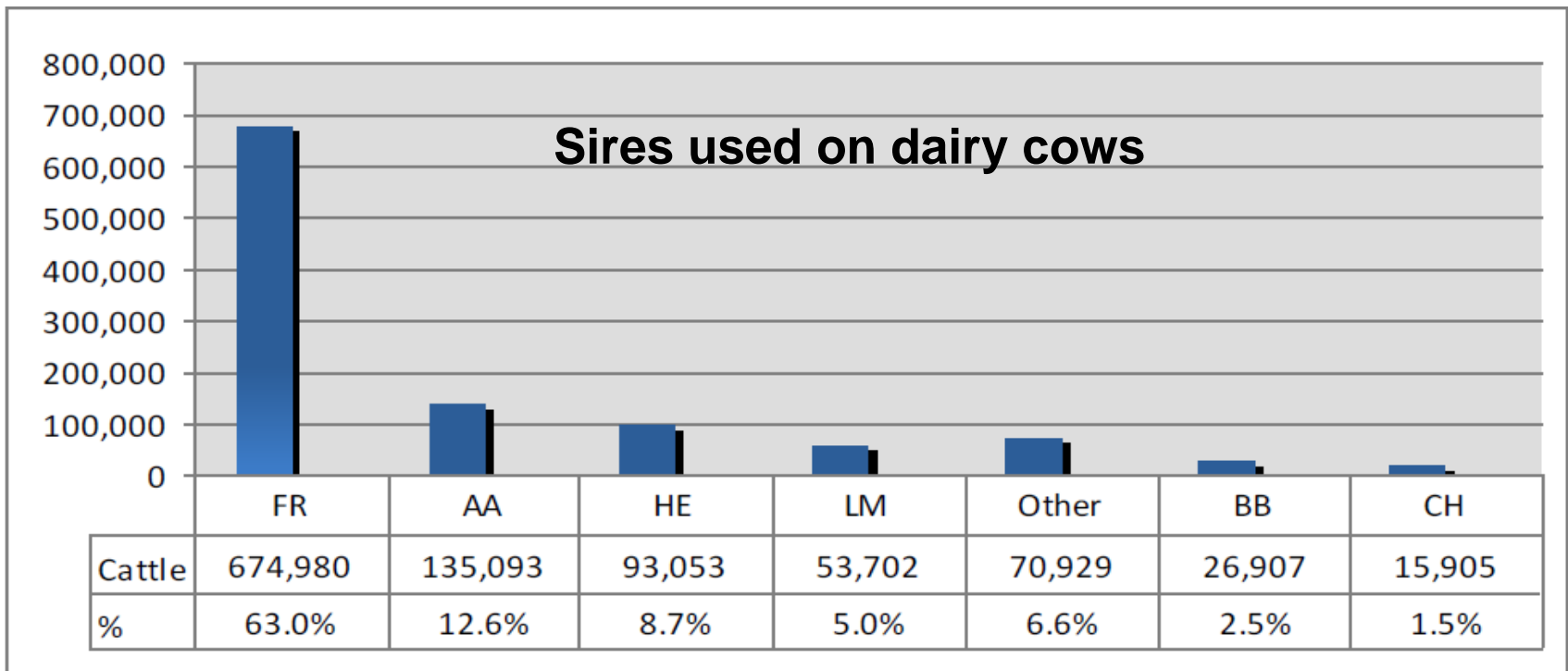
LM	CH	SI	BB	EM (HE&AA)	Other
31%	23%	12%	21%	5%	8%



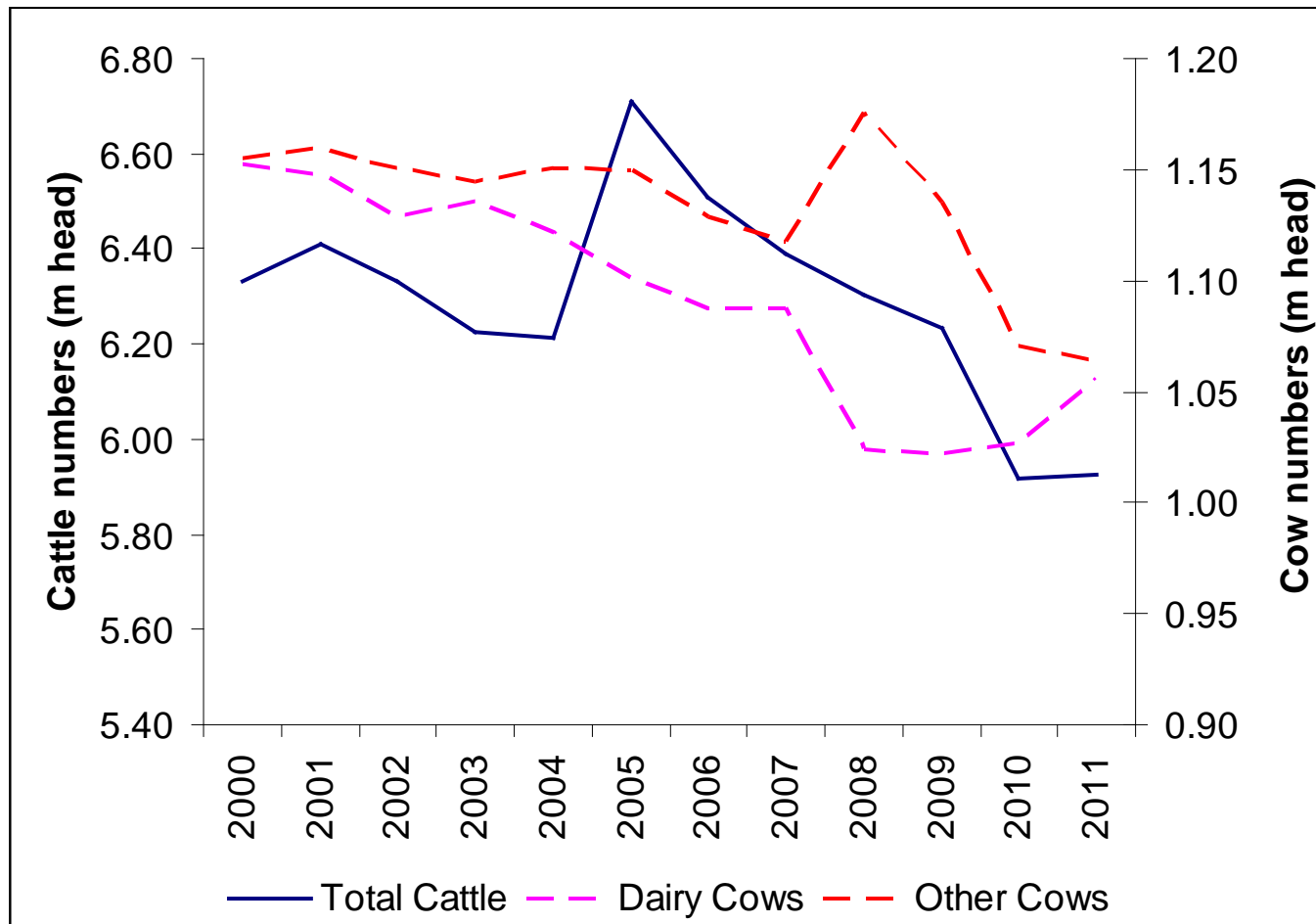
Breeds

Dairy cow breeds

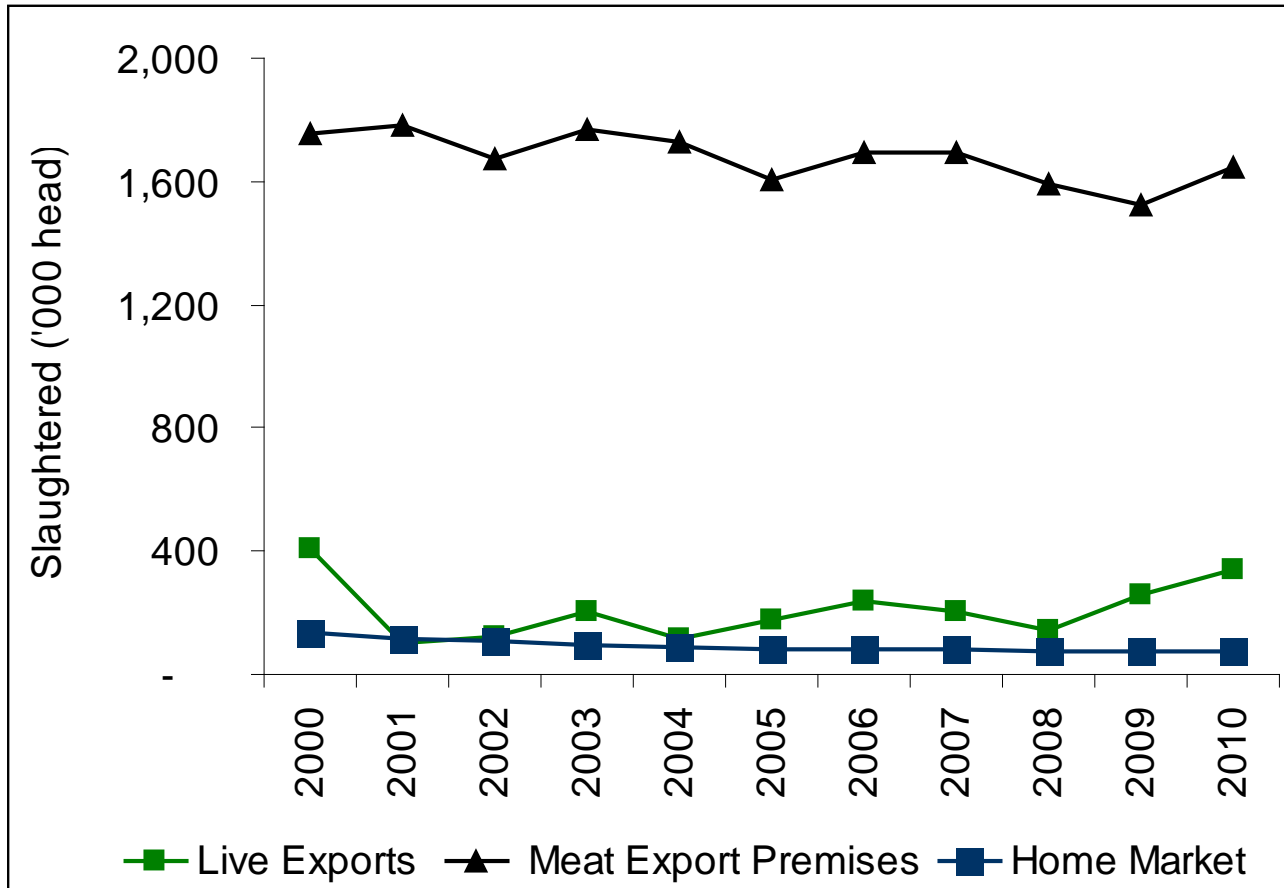
HO-FR	MO	RB	JE	Other
94%	3%	1%	1%	1%



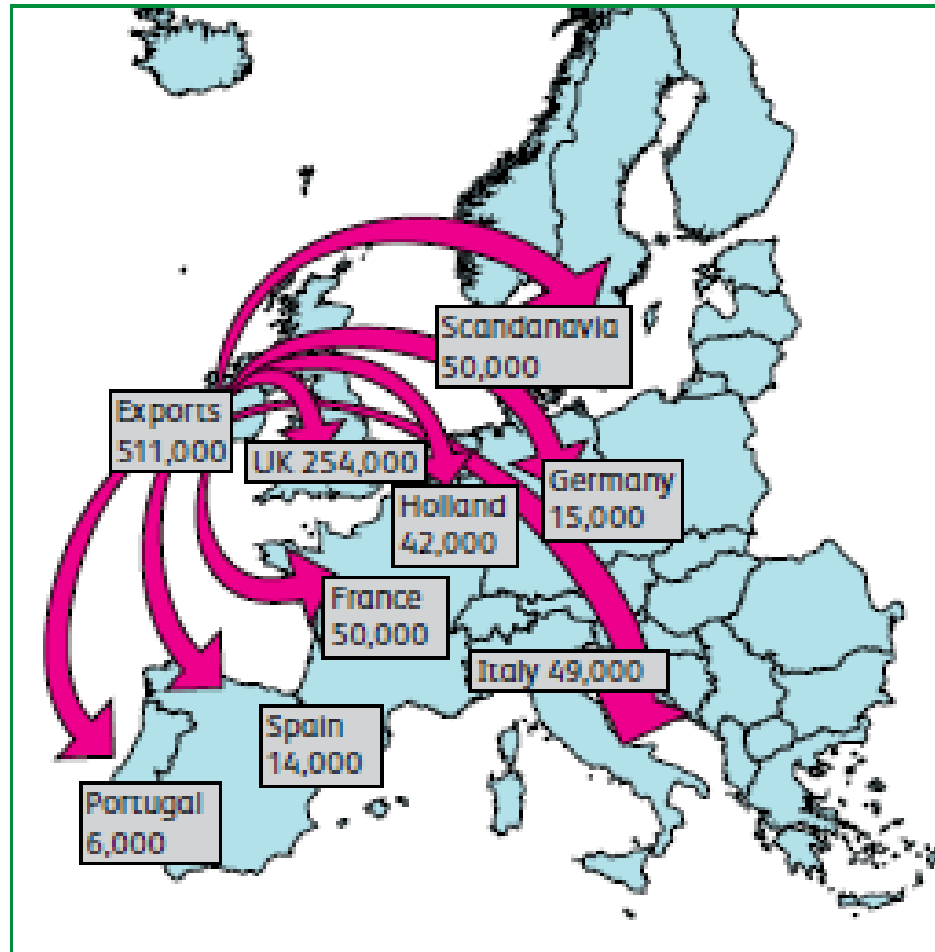
Numbers of breeding & other cattle



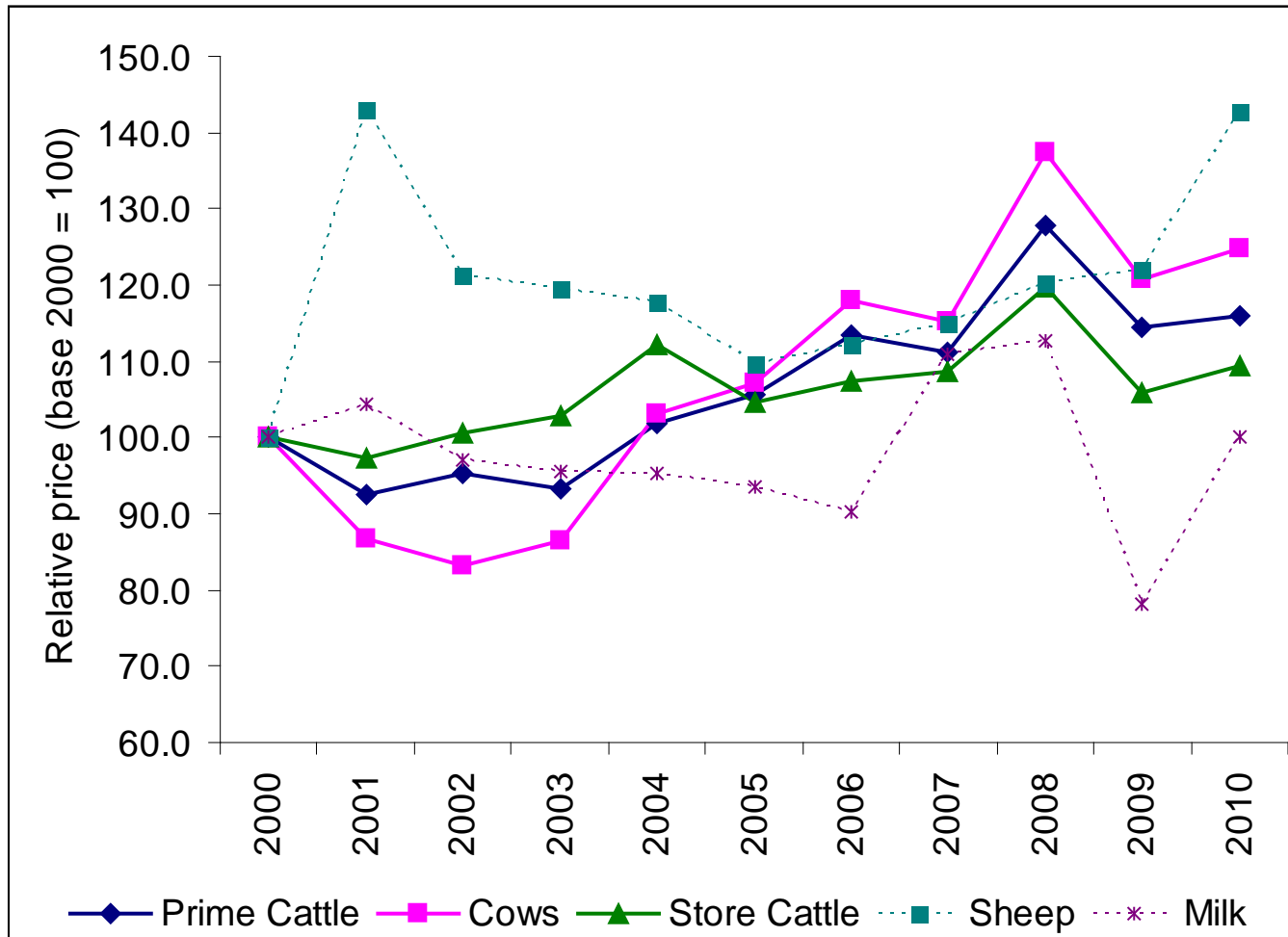
Cattle disposals



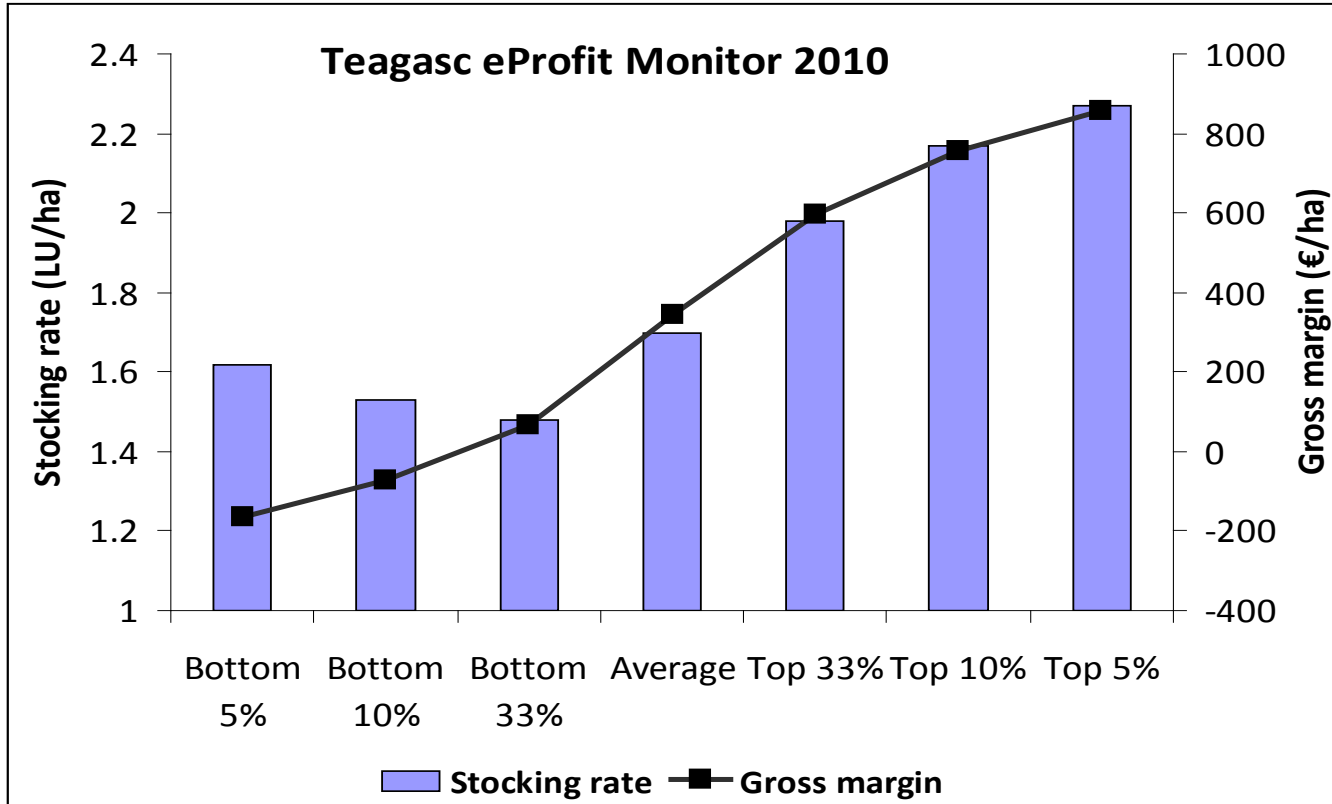
Export destinations



Price trends



Profitability Challenge



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GHG emissions

- **GHG emissions in steady decline since 1998; 9% lower than 1990**
- **But accounted for 30.4% of national emissions in 2010; EU average ~9%**
- **Of developed countries, only New Zealand has a higher proportion**

GHG emissions

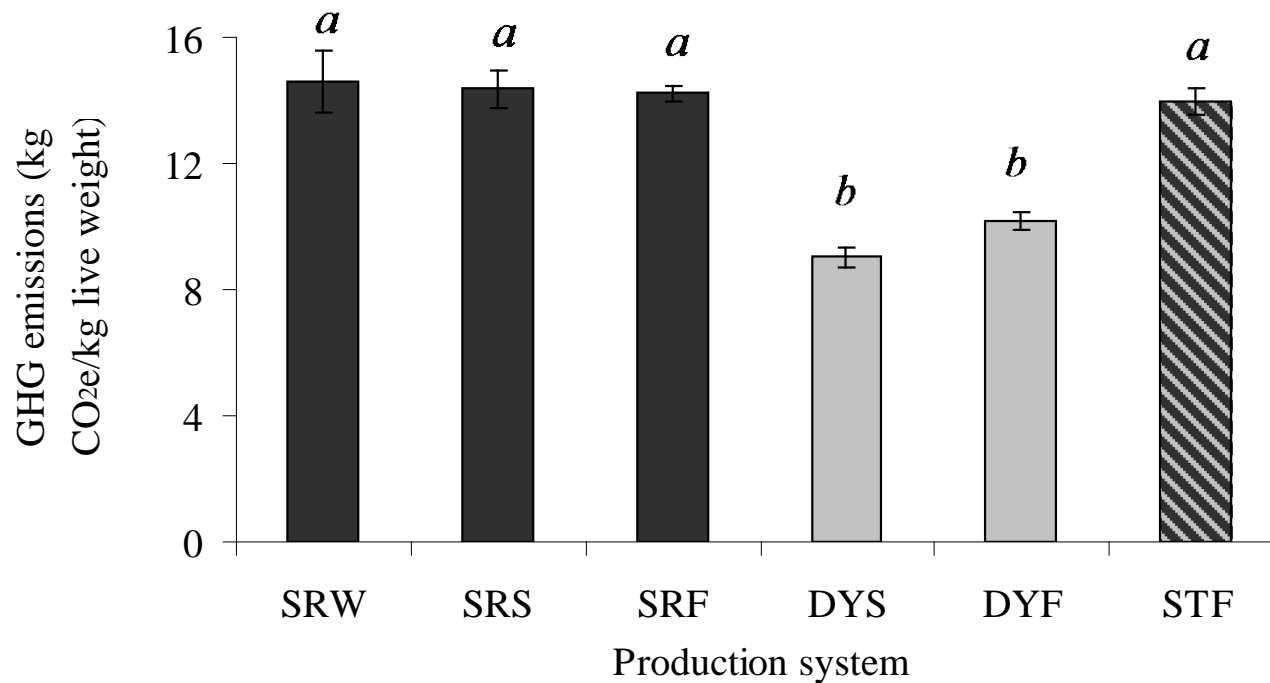
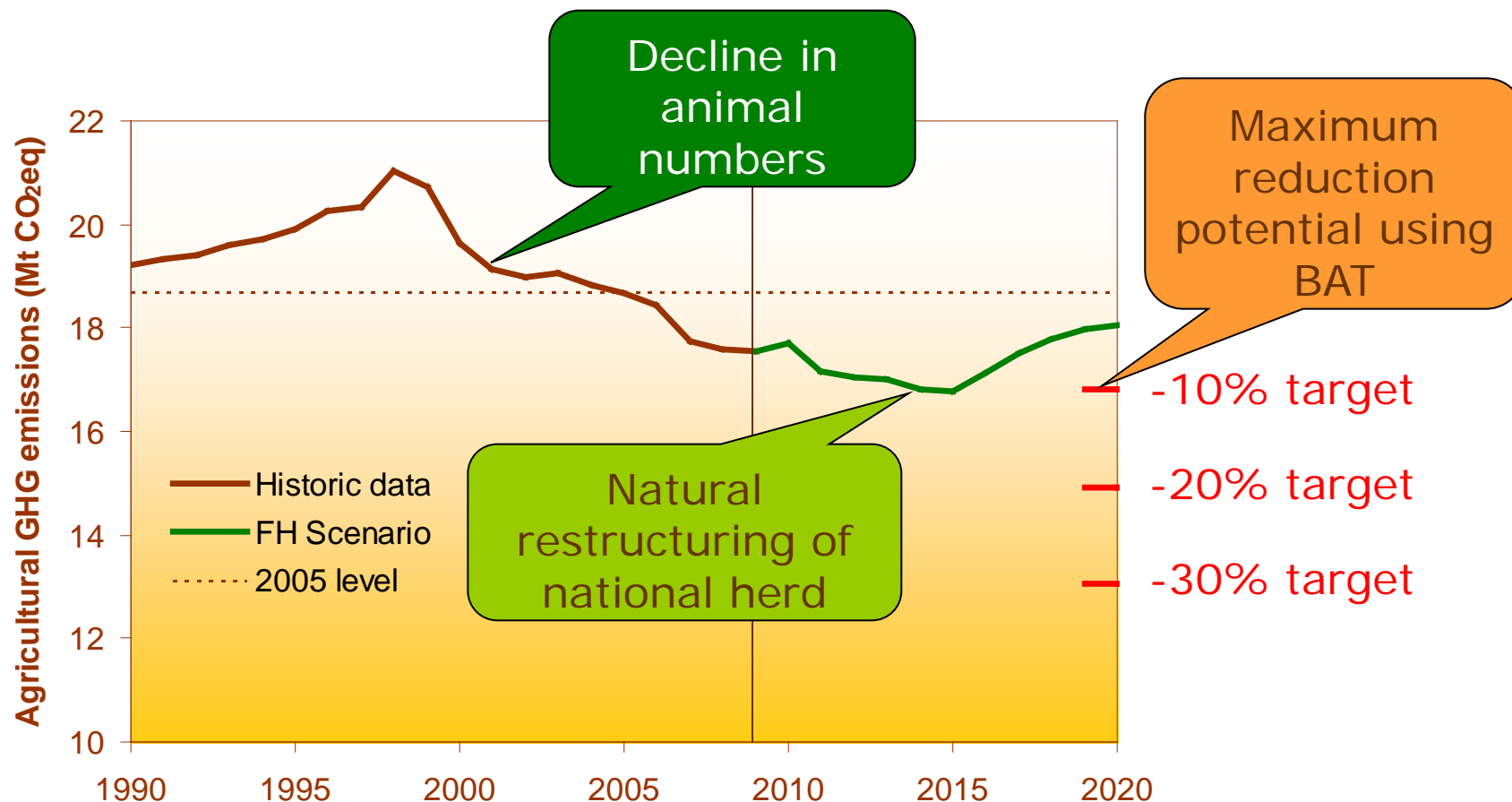


Figure 1. Greenhouse gas emissions from Irish beef production systems. SRW = Suckler to weanling; SRS = Suckler to store/finish; SRF = Suckler to finish; DYS = dairy calf to store/finish; DYF = dairy calf to finish; STF = store to finish.

Green targets: GHG emissions



Source: http://www.teagasc.ie/publications/2011/61/61_ClimateBillSubmission.pdf

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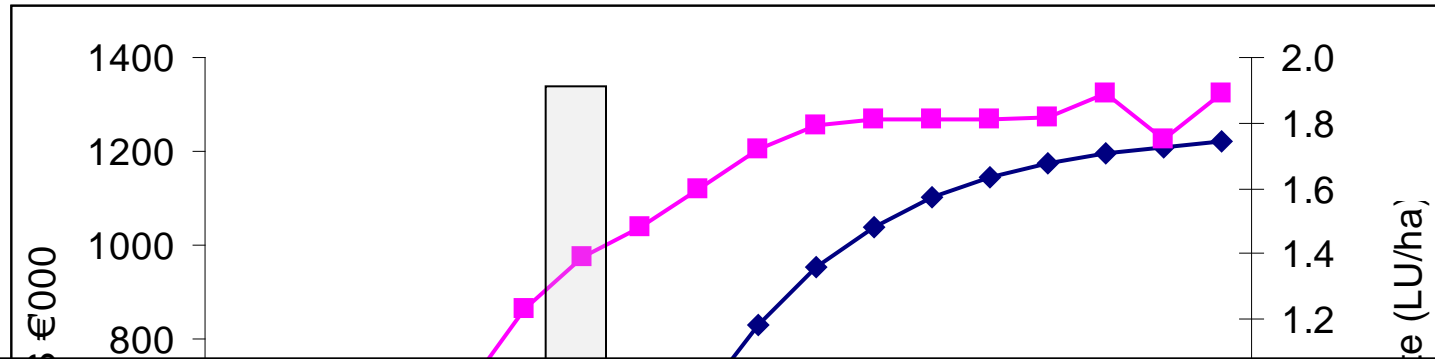
Export-led Agri-food sector



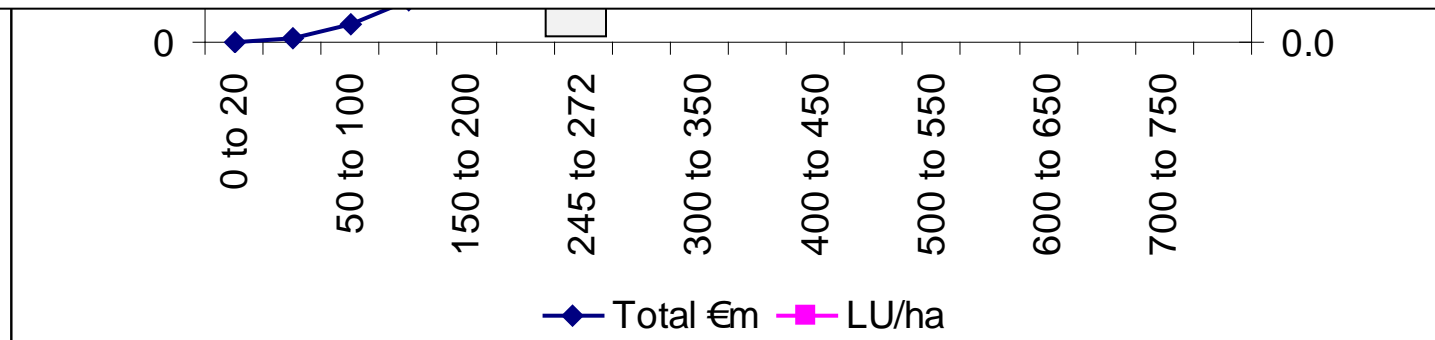
- Increase beef output value by 20% (40%)
- Increase milk production by 50%
- Increase sheepmeat output value by 20%

Source: Irish Dept Agr, Fisheries and the Marine

Implementation of CAP



- Flat rate – impact on more intensive farmers
- Solution – “partial convergence”. Payments <90% of national average increase by 1/3 of difference.



Projected cattle numbers

System	2010	2015	2020
Dairy cows	1,022	1,031	1,293
Dairy heifers	195	233	271
Beef cows	1,134	1,086	1,032
Beef heifers	154	145	143
Total cattle	6,232	5,574	5,844

Sectoral roadmap

	Sectoral Average		Research Target
	Current (2011)	2018	
Calving interval	400	390	367
Calves/cow/year	0.81	0.87	0.95
Grass (% of total DM fed)	49	51	61
Herbage utilised (kg DM/ha)	4,760	5,997	10,009
Liveweight output (kg/ha)	457	580	1,183
Carcass output (kg/ha)	250	317	666
Costs per kg liveweight (€/kg)	1.77	1.52	1.27
Gross output (€/ha)	699	887	1,903
Gross margin (€/ha)	262	377	1,038
Net margin (€/ha)	-110	5	610

Summary

- **Agriculture playing an increasingly important role in the depressed Irish economy**
- **Industry targets (Food Harvest) significant increase in output – smart, green, growth.**
- **Challenge to meet GHG emissions targets**
- **Dairy industry projected to expand substantially with corresponding increases in dairy beef production.**
- **Sectoral targets have been set to improve productivity and profitability**

Go raibh maith agaibh



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