Dairy Calf to Beef Action Plan

Agenda:

1. Welcome address by Liam Herlihy, Chair of the Teagasc Authority
2. Opening remarks by the Minister for Agriculture, Food and the Marine
3. Presentation - Key Technologies to Deliver High Profit Sustainable Dairy Beef Production
4. Panel 1 – Delivering Dairy calf to Beef at Farm Level
5. Panel 2 – Supports for Dairy Beef
6. Closing remarks by Brendan Gleeson, Secretary General, Department of Agriculture, Food and the Marine

An Roinn Talmhaíochta, Bia agus Mara
Department of Agriculture, Food and the Marine

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Food Vision 2030
A World Leader in Sustainable Food Systems

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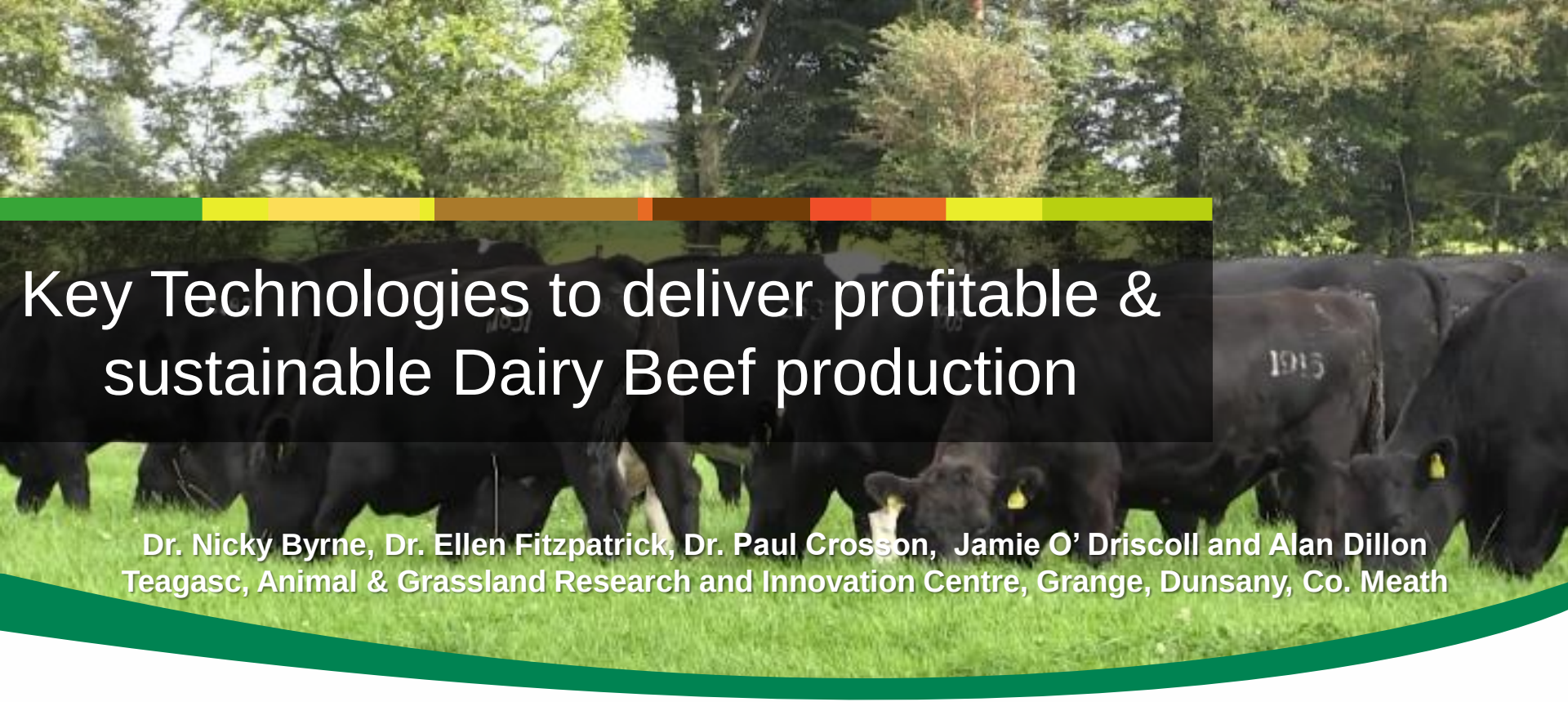

Key Technologies to deliver profitable & sustainable Dairy Beef production

Dr. Nicky Byrne, Dr. Ellen Fitzpatrick, Dr. Paul Crosson, Jamie O' Driscoll and Alan Dillon
Teagasc, Animal & Grassland Research and Innovation Centre, Grange, Dunsany, Co. Meath

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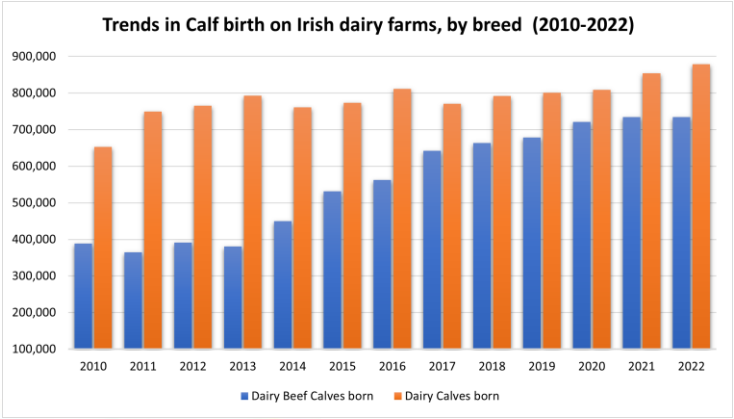
€
CO_2
reduction

The national dairy herd

- ~40% increase in Irish dairy cow numbers in 10 years
  - 1.59 m calving in 2022
- ~60% of beef carcasses of dairy origin



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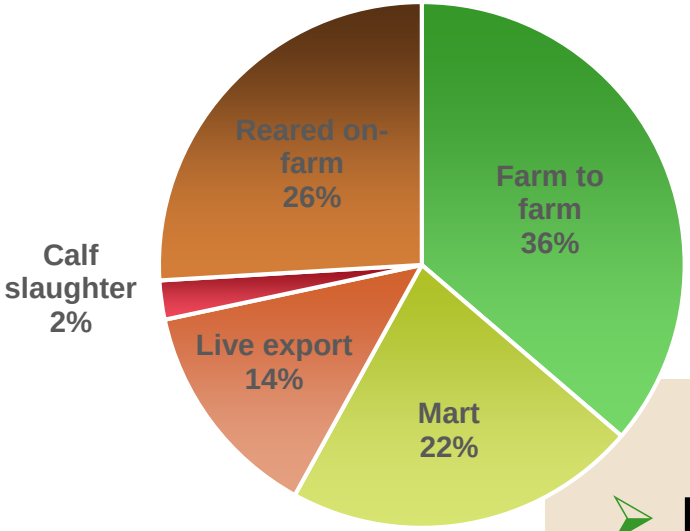
- 1.15m dairy-beef calves available per annum



AIM Bovine Statistics Report 2022

Challenge

- High attrition rate of farms rearing calves
  - Over a 5 year period **39%** of farms continued rearing calves!

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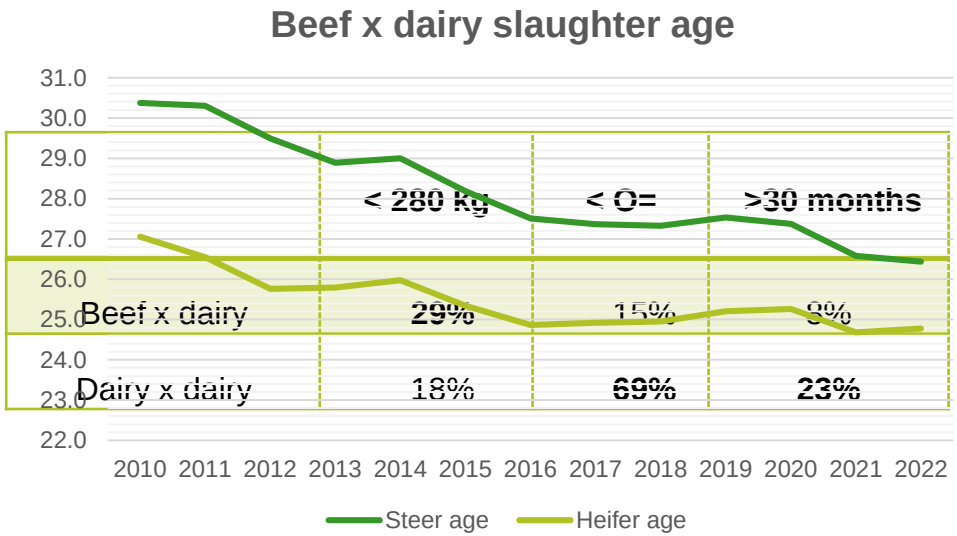
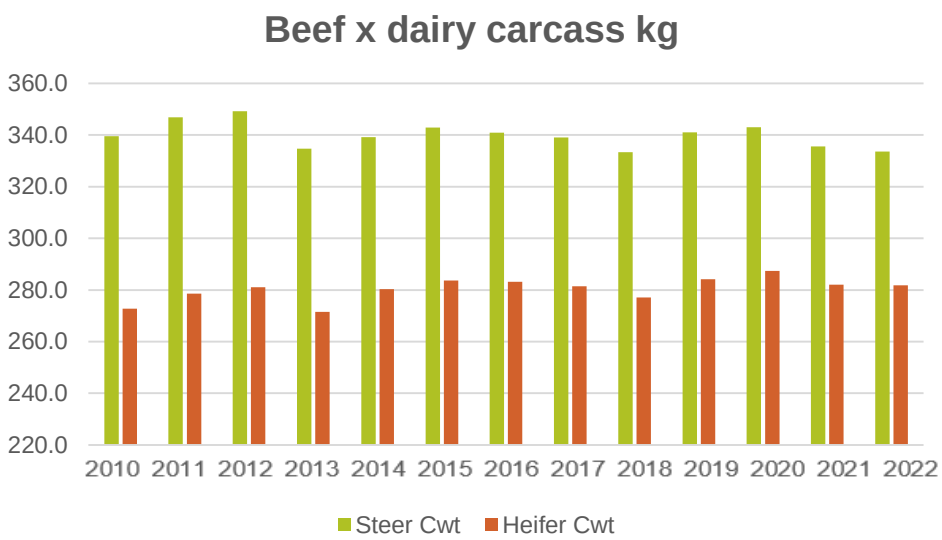
Carcass specification

- Policy ambition to reduce slaughter age by 3 - 3.5 months





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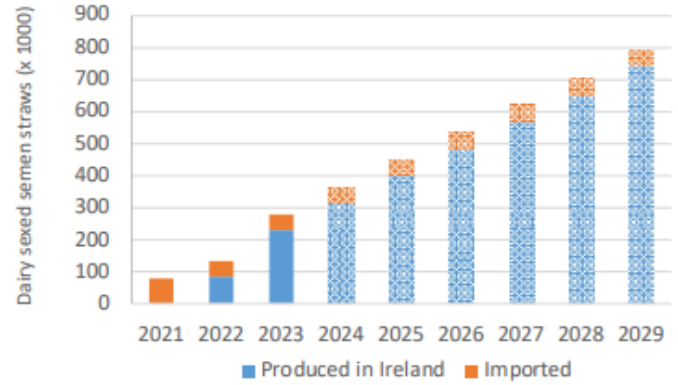
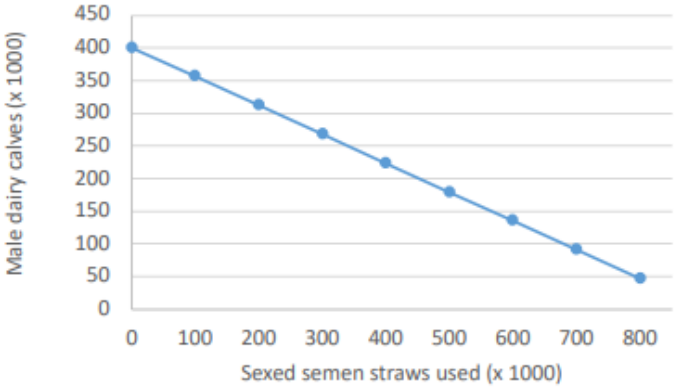
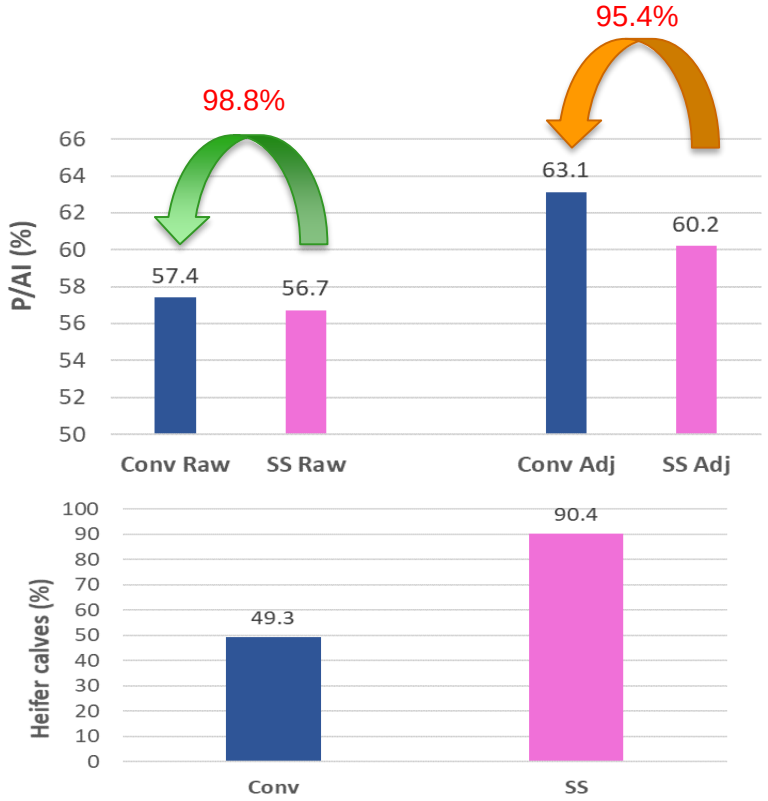
Sexed semen





70% beef sired



Source: M. Kelleher, ICBF

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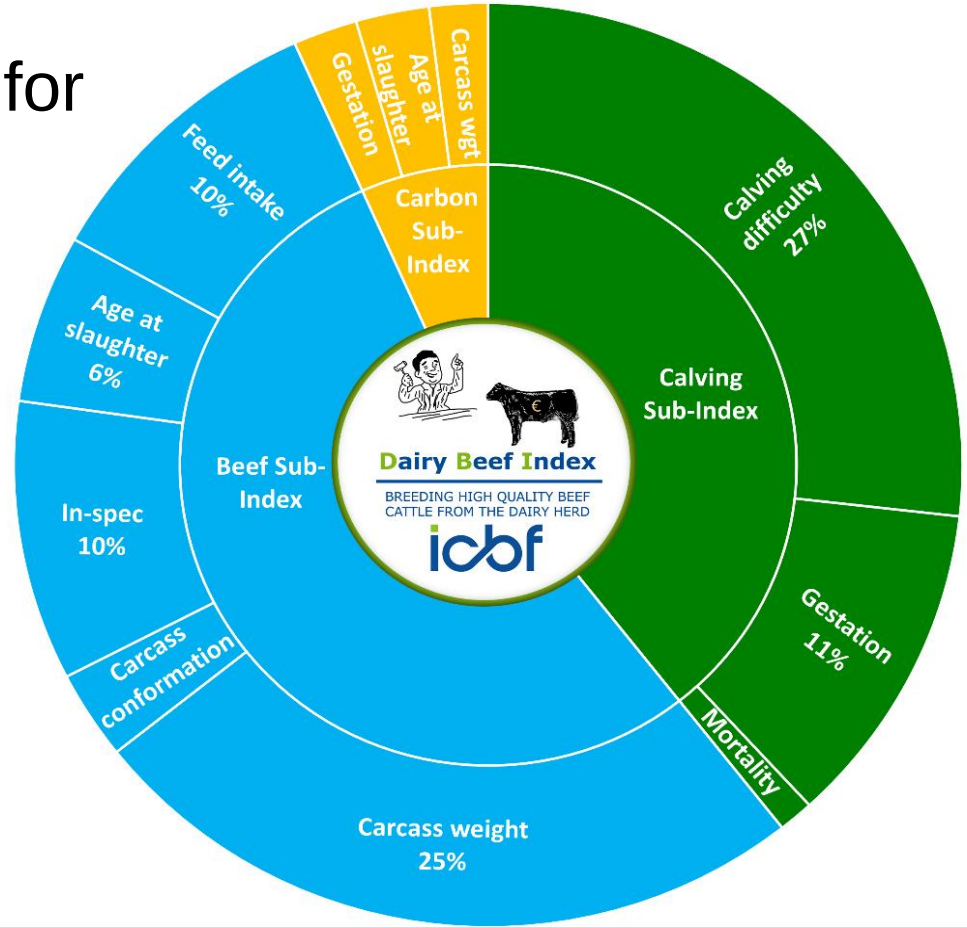
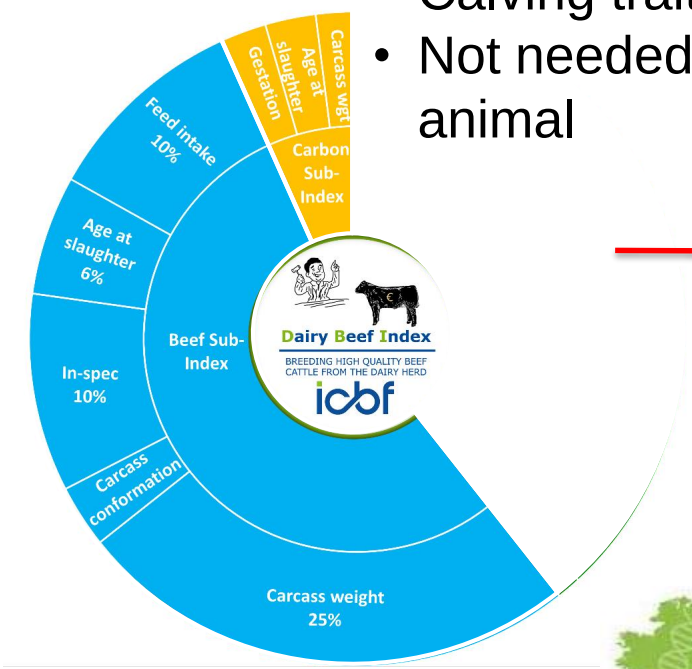
Dairy Beef Index (DBI)

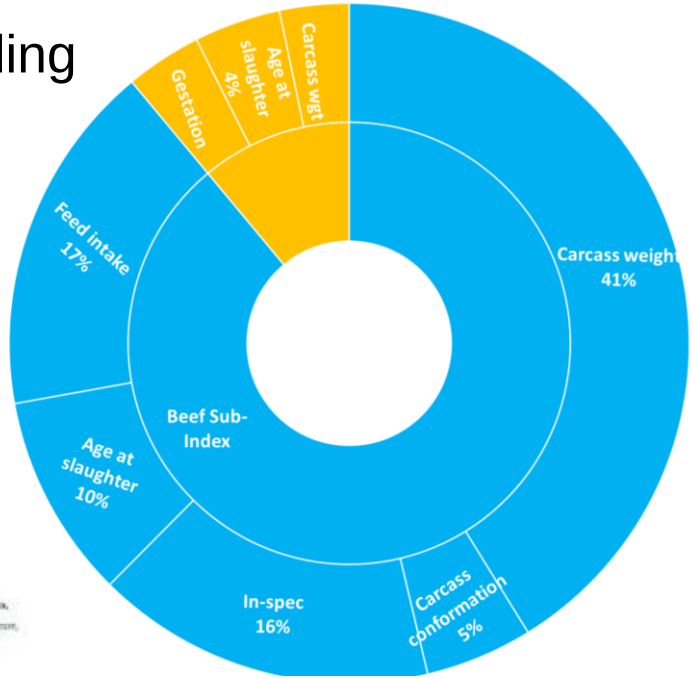
- Identifies beef bulls suitable for the dairy herd
  - **Calving traits**
  - **Carcass traits**
  - **Carbon traits**



Commercial Beef Value (CBV)

- Calving traits removed
- Not needed for non-breeding animal





icbf National Genotyping Programme

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Teagasc Grange (steers)

250 calves annually

- 6 breeds
- 21 days old (>50kg)
- >60 herds
- Strict vaccination (BRD)
- Promotion of solid feed

Teagasc Johnstown Castle (heifers)

Research areas

- Genetics
- Calf health
- Early life calf nutrition
- Strategic use of concentrate
- Age at slaughter
- Pasture type
- Farm system economic and environmental efficiency

Grange steer research system

Animal group	DBI	Beef sub-index	Calving difficulty (%)	Gestation length (days)
Holstein Friesian (HF)	€68	-€3.40	2.3	-4.2
High AA (high beef sub index AA)	€121	**€107**	3.7	-0.5
Low AA (low beef sub index AA)	€124	**€65**	2.4	-1.9

Does breeding for better calves work?

Animal group	CBV	ADG (kg)	Slaughter age (months)	Finishing days	Carcass		
					Weight (kg)	Conformation	Fat
HF	**-€1**	0.82	23.5	137	316	O-	3+
High AA (high beef sub index AA €107)	**€95**	0.91	20.7	70	**312**	O+/O=	3+/4-
Low AA (low beef sub index AA €65)	**€61**	0.87	20.8	73	**294**	O=	3+

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Farm system performance

	High AA	Low AA	HF
System			
Herbage production (t DM/ha)	15.3	15.3	15.3
Stocking rate (LU/ha)	2.53	2.64	2.49
Animals finished (40 ha farm)	125	131	106
Carcass output (kg/ha)	975	963	837
Financial			
Gross output (€/ha)	3945	3777	3518
Variable costs (€/ha)	2055	2084	2188
Gross margin (€/ha)	1890	1694	1330
Fixed costs (€/ha)	740	768	720
Net margin (€/ha)	**1150**	**926**	**610**
Net margin (€/head)	**368**	**283**	**230**
Environmental			
GHG emissions (kg co_2e/kg carcass)	**11.5**	11.8	**14.0**

Base price of €4.56/kg on the QPS grid; €0.20/kg QA payment and €0.20/kg AA breed bonus. finishing concentrate price €400/t. Protected urea price €550/t. ***Net margin excludes land & labour charge** and assumes a calf purchase price of €60 and €180 per head for HF and AAX sired bull calves, respectively.*

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Johnstown castle heifer research system

- Grass-only receiving 150 kg N/ha (PRG)
- Grass-clover receiving 75 kg N/ha (CLOVER)
- Multi-species swards receiving 75 kg N/ha (MSS)
- Early maturing heifer system

Heifers finished during 2nd grazing season

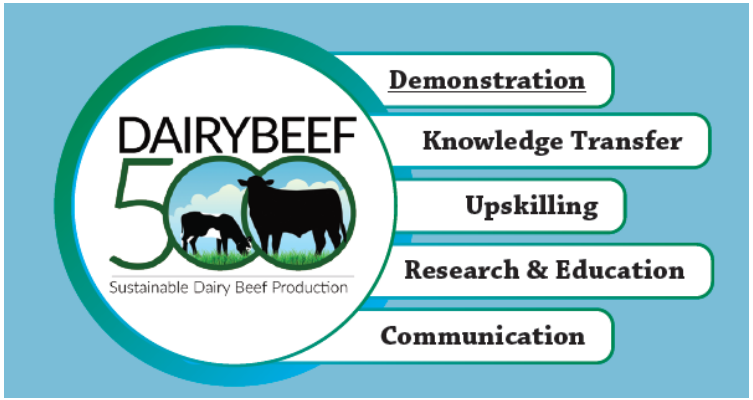
	PRG	CLOVER	MSS
Carcass			
Age (months)	19.4	19.2	19.2
Slaughter weight (kg)	478	490	492
Carcass weight (kg)	239	248	243
Conformation (1-15)	O=	O=	O=
Fat (1-15)	3=	3=/3+	3=/3+
Financial			
Net margin (€/ha)	984	**1268**	1201
Net margin (€/head)	258	334	308
Environmental			
GHG emissions (kg CO_{2e}/kg carcass)	10.2	**9.8**	10.0

Base price of €4.56/kg on the QPS grid; €0.20/kg QA payment and €0.20/kg breed bonus. finishing concentrate price €400/t. Protected urea price €550/t. **Net margin excludes land & labour charge* *and assumes a calf purchase price of €150 per head for early maturing heifer calves.*

DairyBeef 500 Campaign

Objectives

- €500/ha per hectare
- Beef and Dairy integration
- Improve beef merit of dairy-beef calves
- Promote best practices
  - Grassland management, calf rearing and health
- Reduce environmental impact



The DairyBeef 500 Demonstration Farmers are sponsored by:

MSD Animal Health · MUNSTER BOVINE · volac · LIFFEY MILLS · CORTEVA agriscience · DRUMMONDS FEED, SEEDS & GRAIN MERCHANTS

Tipperary Dairy Calf to Beef demonstration farm is sponsored by:

Shinagh Estates Limited · CARBERY · DAWN MEATS

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DairyBeef 500 slaughter age

- Reduction of **76 days** (2018-2021)
  - Maintained carcass specification
- Younger slaughter ages:
  - Increased stock numbers
  - Reduced silage requirement
  - Increased farm profit

Year	Age	Cwt kg	Con	Fat
Early-maturing steer				
2018	28	324	O+	3+
2019	26	312	O=	3+
2020	25	318	O=	3+
2021	25	310	O=	3+
Early-maturing heifer				
2018	25	259	O=	3+
2019	24	259	O=	4-
2020	23	263	O=	4-
2021	22	261	O+	3+
Holstein Friesian steer				
2018	27	302	O-	3=
2019	26	317	O-	3+
2020	27	325	O-	3=
2021	25	317	O-	3=

DairyBeef 500 farm profit drivers

- Grassland management
  - High herbage production & utilisation
  - High quality forage
- Calf quality
  - Genetics, health, calf DOB
- Calf price
- Labour efficient, simple system

	2021	2022
Stocking rate LU/ha	2.31	2.30
Grassland Organic N Kg/ha	183	183
Gross output €/ha	**2882**	**3236**
Gross output €/kg LW	2.02	2.35
Variable costs €/ha	1541	1953
Gross Margin €/ha	1341	1284
Fixed Costs €/ha	692	768
Net Margin €/ha	**650**	**516**

Summary of key technologies

- Genetics
  - Low cost, rapid & widespread improvements possible
  - Substitute HF for high beef merit
- Calf health
  - Colostrum management
  - Respiratory health
- Grassland management
  - Legume incorporation

- **Reduced slaughter age**
- **Higher profit**
- **Lower carbon footprint**

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Thank you!
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