TEAGASC RESEARCH INSIGHTS
LEADING RESEARCH FOR TOMORROW'S AGRI-FOOD SYSTEMS

Optimum dairy-beef systems

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Agriculture and Food Development Authority

1.55 m
dairy calving's

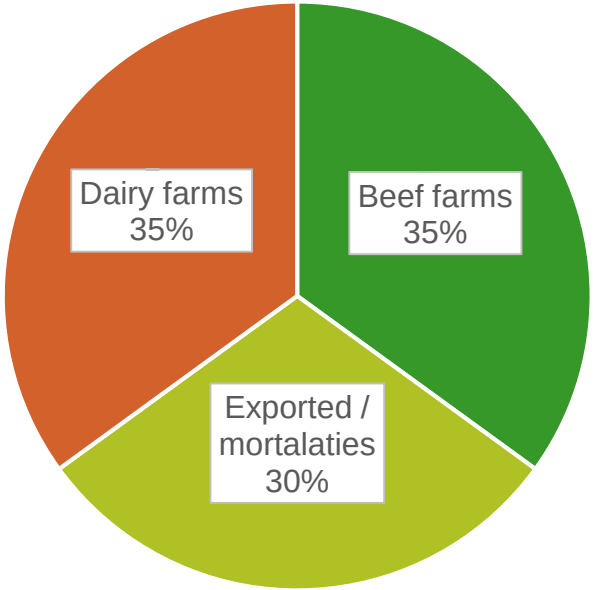
400k (males)
dairy x dairy

+

750k
beef x dairy

1.15m calves <6 weeks of age
available for beef production

- 1.15m dairy beef calves available per annum



Beef farms

- 10,076 farms
- 37 calves

Challenge

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

Source: ICBF

Carcass weight and conformation need to be improved in dairy-beef calves

Alan O'Connor | Jan 18, 2019, 6:10am

Dairy calf exports back almost 30pc on 2019 level

33,952 calves have been exported from Ireland as of the week ending March 14, 2021

Claire Mc Cormack
March 23 2021 02:00 AM

Dairy beef dying in debt

Pneumonia: How to defeat a calf killer

Farmers will need €4.05/kg to make dairy calf-to-beef scheme profitable

Declan O'Brien and Martin Coughlan
April 04 2019 03:00 PM

Farmers involved in dairy calf-to-beef production will have to be paid a minimum of €4.05/kg into the hand to make a margin of €200/hd on calves bought this spring.

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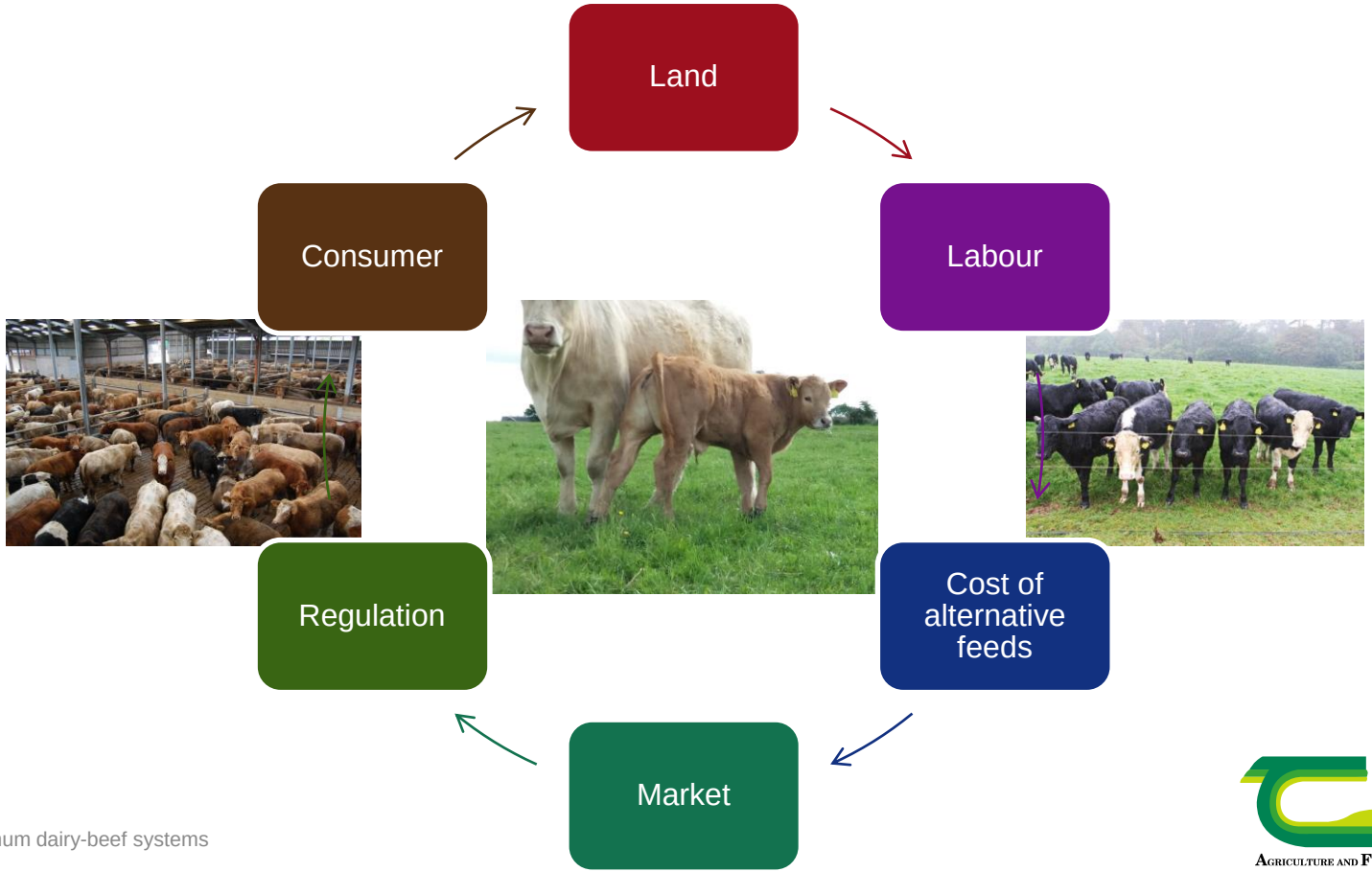
	AA sire * HF Dam			HF sire * HF Dam		
Year	Cwt	% <=280kg	% <= O-	Cwt	% <=280kg	% <= O-
2014	312	18.1%	11.9%	308	21.0%	59.2%
2015	314	17.0%	13.6%	312	17.7%	61.3%
2016	321	12.2%	14.7%	316	13.3%	61.0%
2017	319	13.6%	16.9%	312	17.4%	66.2%
2018	316	16.1%	20.9%	308	21.1%	70.8%

Source: ICBF

Influencing beef systems



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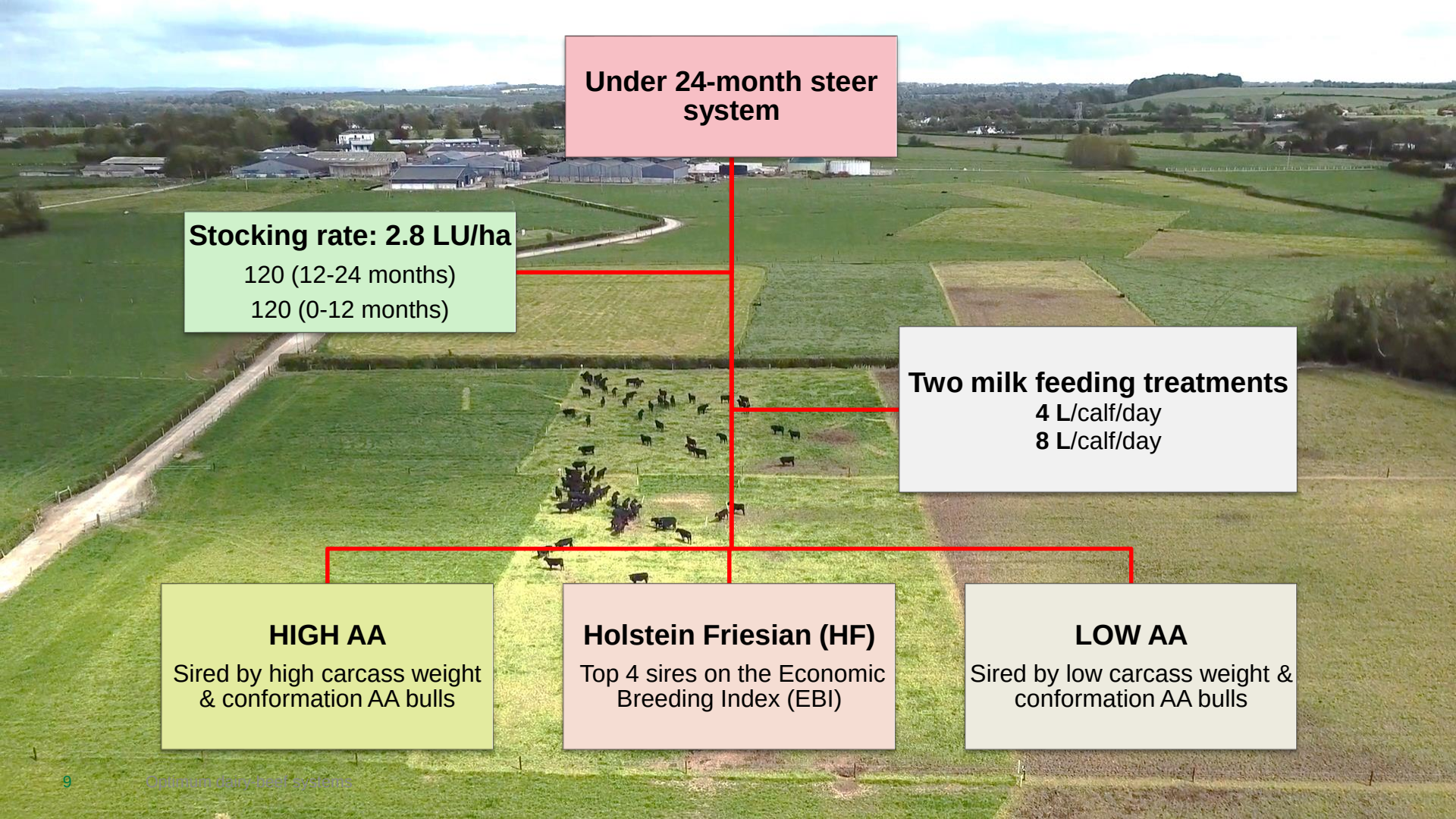
Grass-based dairy-beef systems

- High output systems
- High quality sustainable product

Grange dairy-beef system evaluation

- **Objective:** Assess the physical & financial performance of dairy beef calves sired by bulls of divergent genetic potential for carcass traits
- Complete farm system
- Holstein-Friesian (HF) & Angus (AA)

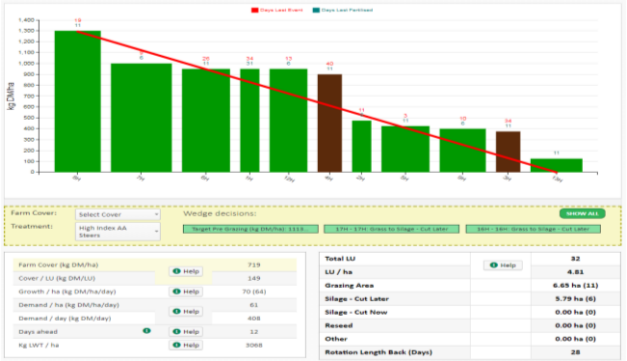

Under 24-month steer system
Stocking rate: 2.8 LU/ha
120 (12-24 months)
120 (0-12 months)
Two milk feeding treatments
4 L/calf/day
8 L/calf/day
HIGH AA
Sired by high carcass weight & conformation AA bulls
Holstein Friesian (HF)
Top 4 sires on the Economic Breeding Index (EBI)
LOW AA
Sired by low carcass weight & conformation AA bulls

Grazing

- 267 day grazing season
- 13.7 t DM/ha
- Pre-grazing cover: 1300 – 1600 kg DM/ha
  - 48 hour grass allocations
  - 4 cm post-grazing sward height

Silage

- High quality silage
  - >75 DMD
  - Grazed late autumn/early spring
- Helps control herd demand



Slaughter performance

	HF	HIGH AA	LOW AA
Carcass/slaughter performance			
Age at slaughter (days)	686 (22.8 mth)	656 (21.8 mth)	657 (21.8 mth)
Carcass weight (kg)	300	305	300
Carcass conformation (1-15)	3.8 (O-)	5.3 (O=)	5.1 (O=)
Carcass fat (1-15)	8.4 (3=)	8.9 (3+)	9.2 (3+)
Carcass value*	€1,065	€1,156	€1,123

*Base price of €3.70/kg on the QPS grid; €0.20/kg QA payment and €0.10/kg breed bonus

Holstein Friesian

Angus

- [illegible]ngus
  - Lo[illegible]
  - Higher [illegible]
    (224 kg N [illegible]a) & organic N (212 kg N)
- Higher li[illegible]trate use
  - 6[illegible]
    [illegible] of feed requirement from forage (DM
    (DM basis) [illegible]asis)

4L vs 8L

- No effect on animal performance
  - 20 kg less milk replacer
  - 25 kg more concentrate
  - €33 saving per calf

System performance

	HF	HIGH AA	LOW AA
Calf purchase price (€/ha) [1]	€192	€512	€512
Carcass output (kg/ha)	**960**	**976**	**960**
Gross output (€/ha)	€3,408	€3,699	€3,594
Total variable costs (€/ha)	€1,962	€1,715	€1,728
Gross margin (€/ha)	€1,446	€1,984	€1,866
Fixed costs (€/ha) [2]	€752	€752	€752
Net margin (€/ha)[3]	**€502**	**€720**	**€602**
Net margin (€/kg)	€0.52	€0.74	€0.63
Cost of production (€/kg)	€3.03	€3.05	€3.12

[1] Net margin (€/ha) assuming a calf purchase price of €60 and €160 per head, respectively, for Holstein Friesian and Angus sired bull calves.

[2] Fixed costs are based on Teagasc eProfit Monitor results from dairy calf-to-beef farms. [3] Net Margin excludes land and labour charges.

Summary

- Need for greater integration
- High-output grass-based systems
  - 80-90% of lifetime feed requirement from forage
- Potential to reduce age at slaughter
  - Current focus on genetics & grassland nutrition
- Although, non-significant higher merit AA animals achieved improved carcass performance, with a higher % in-spec

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Thank you!

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