

Sustainable Beef Production



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naturally better...

Dr Ryan Law

8th December 2016

Family owned, Professionally managed



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“With **integrity and trust** at the heart of our business, our desire to create **better food naturally** is the driving force behind everything we do”

Jim & Jack Dobson



Strategic Site Locations



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Our Customers



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Sainsbury's

ASDA
part of the **WAL*MART** family

Iceland

The **co-operative** food

TESCO

ICA



Budgens

MARR

SPAR

E.LECLERC



BOOTH'S
supermarkets

Carrefour

CONAD



MONOPRIX On fait quoi pour vous aujourd'hui ?

JUMBO
supermarkten

Grupo Eroski

unicomm srl



GVFI Europe

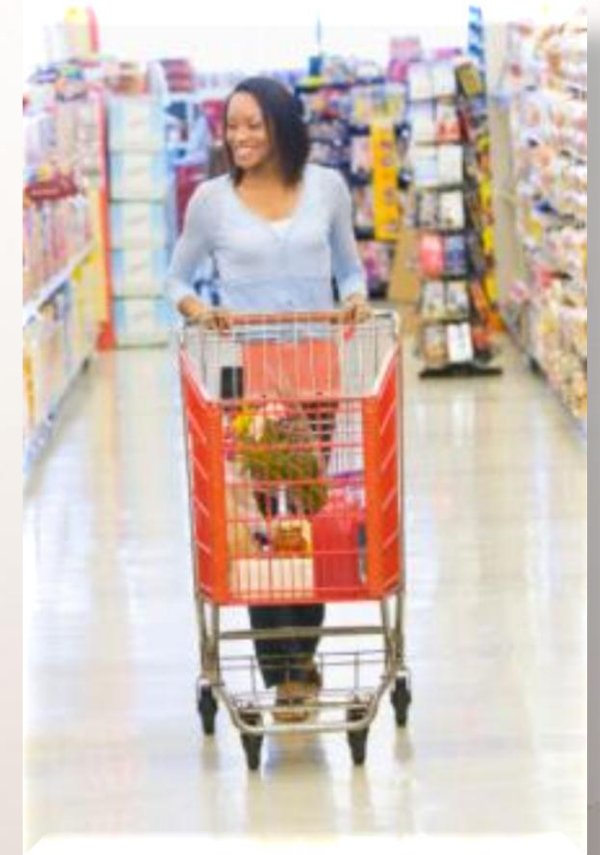
The Challenge – Consumer



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- Meeting customer / consumer demand
 - Successful businesses provide what the customer wants
 1. Value (what I pay reflects quality of product)
 2. Product quality (eating quality, appearance)
 3. Product attributes (healthiness, safety, welfare, traceability, environment)
 4. Convenience (packaging, ease of cooking, ease of storage etc.)
 5. Provenance (where is it from, breed, story)
 - Issue
 - Unacceptable levels of variability, especially in tenderness (Troy 2011)



The Challenge - Purchasing Habits

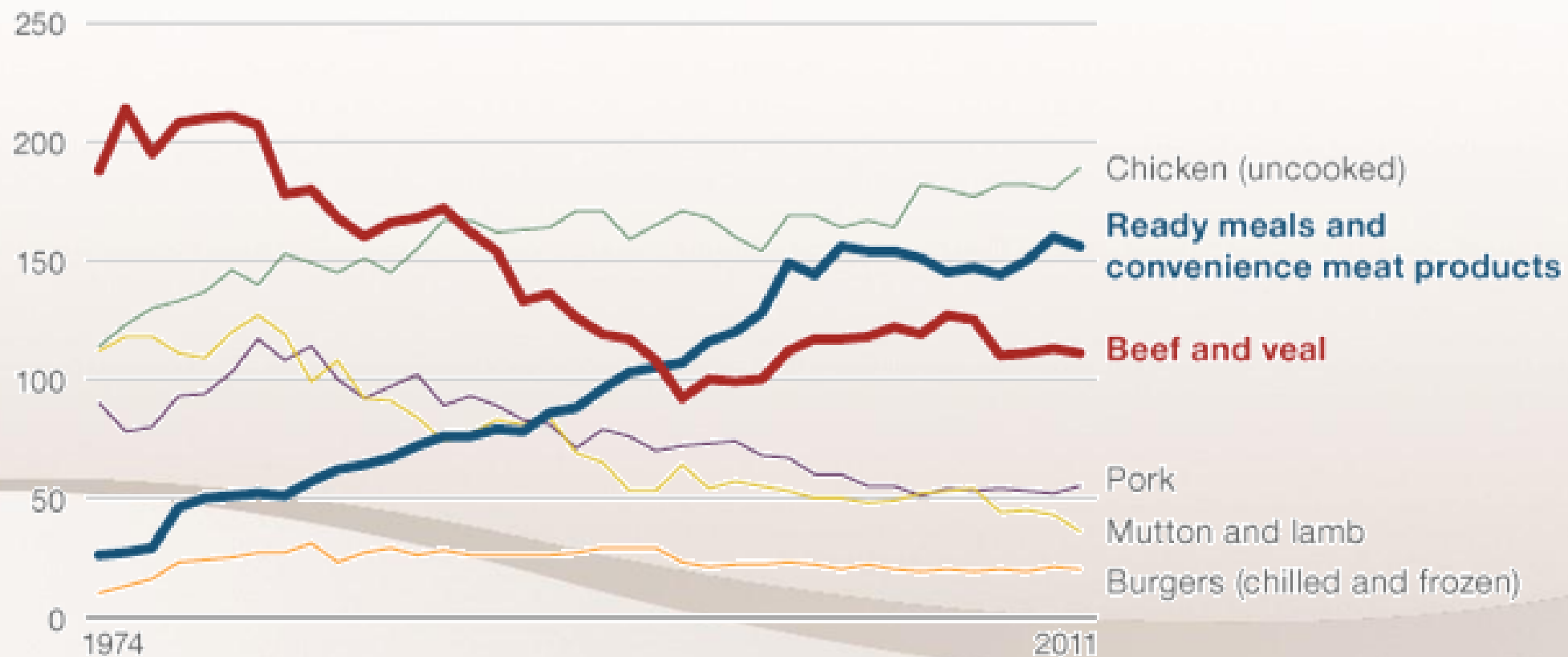


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Meat purchased in the UK (1974-2011)

Household food only



Source: DEFRA

The Challenge - Supply



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- Livestock supply
 - The viability of the meat industry is highly dependent on sustainability of supply
 - There are concerns over future supply
 - Most producers not driven by market opportunities
 - Breeder far removed from market
 - Evident in the number of animals currently falling out-of-spec
 - **Over 30% of heifers and steers out-of-spec**
 - This is associated with inefficient and unmonitored production systems



The Challenge - Variability In Supply



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- 49% of beef fails to meet ideal market specification (AHDB)
 - Poor conformation, over weight & over fat
- Despite meeting carcass specification still huge variability
 - Age (12-36 months)
 - Weight (260 – 400 kg carcass)
 - Breeds (25+ different breeds)
 - Conformation grade and fat class

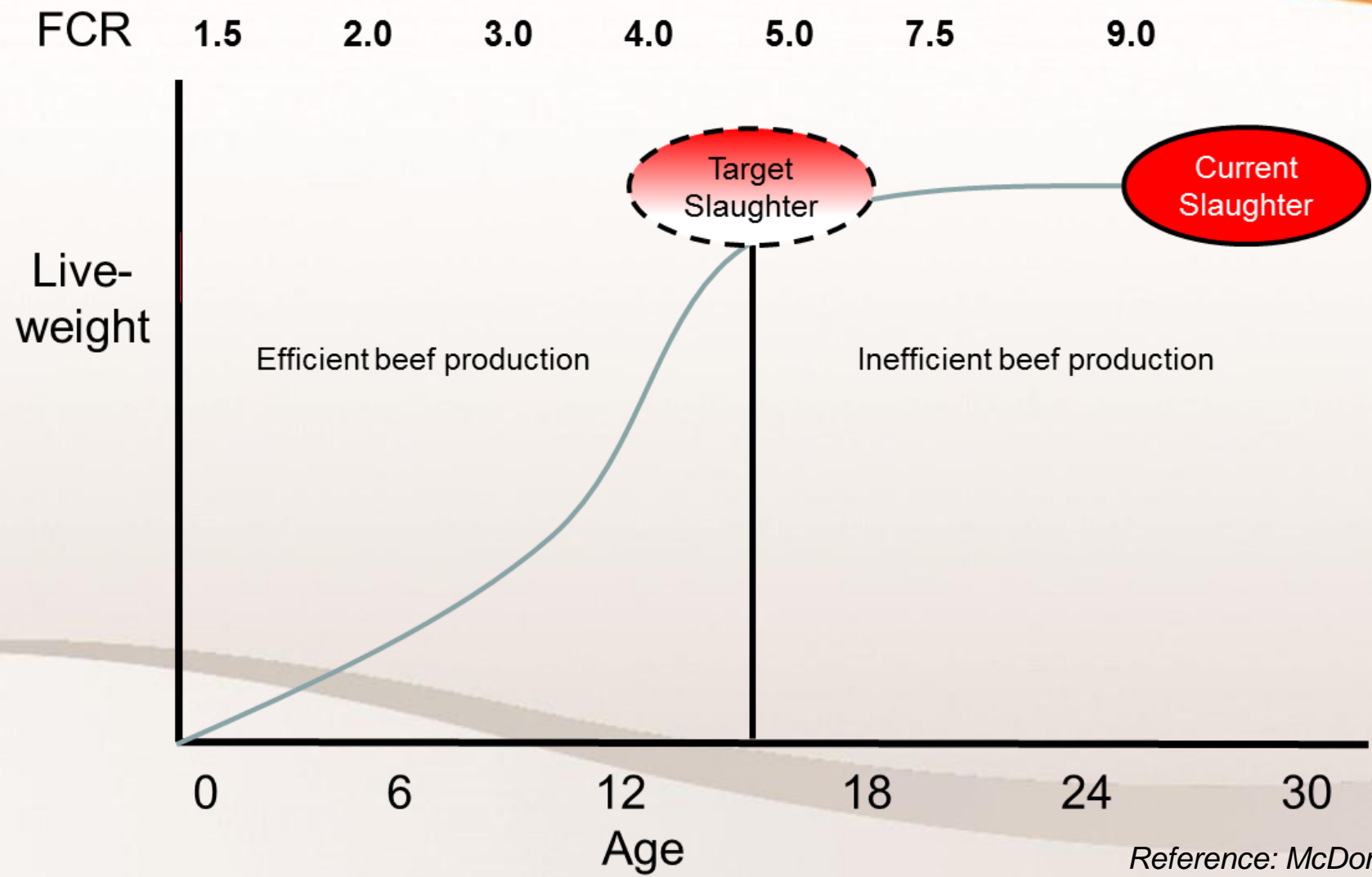


The Challenge - Sustainable Producers



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Reference: McDonald, Edwards and Greenhalgh

Supply Chain Integration



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- Supply Chain Integration
 - “Close alignment and coordination within a supply chain”
- Improved market transparency
 - Improved supply chain communication and cooperation
 - Producer – Processor - Retailer
 - Improved market security for producers
 - Secure supply for processors
 - Facilitates better flexibility to changes in market
 - Producers have a responsibility to improve production system
 - Ultimately leading to a more resilient and sustainable industry

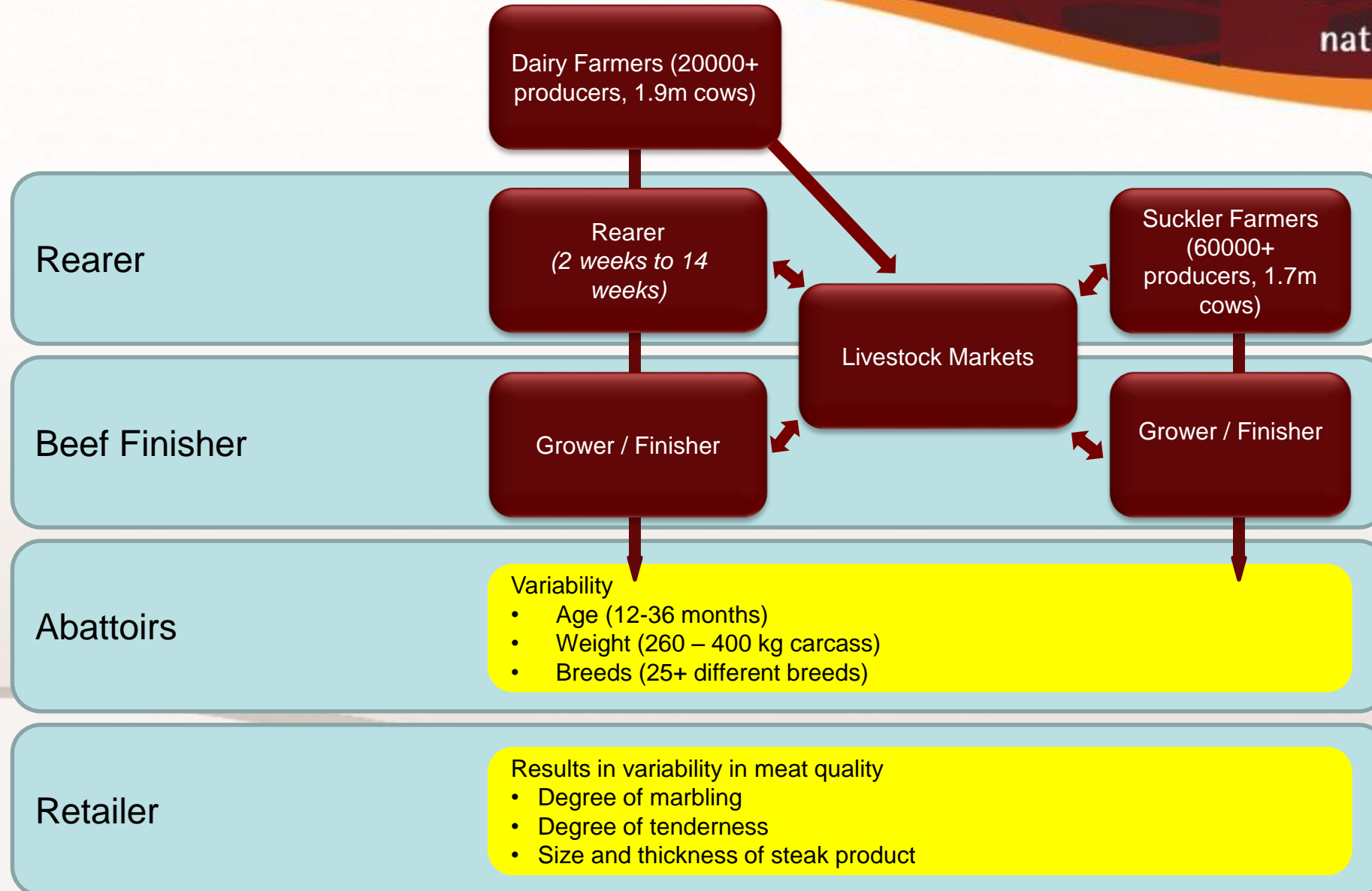


Current Beef Supply Chain



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Supply Chain Integration - Dairy Origin Beef



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- Supply Chain Integration will facilitate establishment of effective dairy origin beef system
 - Currently approximately 54% of prime cattle slaughtered originate from the dairy herd
 - This is predicted to increase due to decreasing suckler cow numbers
 - Renewed interest in the whole area of dairy origin beef throughout supply chain
 - Retailer to producer



Structure



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**Data Driven
Agriculture!**

Objectives



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- Deliver a consistent product to the consumer
 - Reduce variation
 - Age of slaughter
 - Slaughter weight
 - Grade
 - Fat class
- Increase data flow within supply chain
 - Data Driven Agriculture
- Collaborative approach to formulating management protocols
 - Buy-in at all levels of supply chain



Case Study – Dunbia Integrated Beef Scheme



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- Designed to promote dry feed intake at a young age
- Maintain high immune status
- Low pathogen burden
- Low levels of disease
- High growth rate
- Slaughter < 15 months



Dry Feed Programme



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	Quickstart	Papinbeef	Econbeef
Age (days)	1-28	29-100	100+
Palatability	Attractive aroma	Attractive aroma	Normal
Unique Properties	Particle size profile	Particle size profile	Particle size profile
	Energy source micronized	Yeast, volatile fatty acid derivatives and sugars	Alkalizing substances and essential amino acids
	Protein source enzyme treated	Mano-oligosaccharides and Betaglucans	Speed modulators of degradation of the carbohydrates



Cost Comparison



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	Conventional	Dunbia	Calorific equivalent
Milk powder / calf (kg)	30	12.5	64
Cost / Calf (£)	45.00	18.75	96
Dry feed / calf (kg)	150	225	125
Cost / calf (£)	33.12	62.10	34.50
Total (£)	86.37	80.85	130.50
Energy Intake (MJ)	2613	3270	3273



- Rearing farms – 84 day cycle

	Average	Cycle 1	Cycle 2	Cycle 3
Batch size	105	95	116	128
Milk (kg/head)	13.9	17.2	12.4	11.0
Concentrate (kg/head)	216	203	221	225
Cost (cost(£)/kg gain)	1.38	1.43	1.39	1.33
ADLG (kg/d)	1.001	0.961	0.985	1.056
Animals treated (%)	34.5	56.5	28.0	18.0
Mortality (%)	1.8	2.9	2.1	0.7

Finishing Targets



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- Finishing targets
 - <15 months
 - 580kgs
 - Fat class >3
 - Conformation >O-
 - 1.2 kg / head / day over lifetime of animal
 - Mortality 1% during finishing



Meat Quality Targets



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- Deliver to customer
 - Consistent product
 - Ensure consistent loin size
 - Steak pack – fixed weight (320g)
 - Reduced variability in loin size will reduce problems with cooking
 - Steak fitting properly in skin pack
 - Oversized steak less appealing to customer



Meat Quality Targets



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- Consistent product
 - Management
 - Delivering unstressed animals to the factory
 - Reducing risk of DFD or PSE
 - Delivering similar flavour properties
 - Similar fatty acid profile
 - Delivering consistently tender steaks
 - Similar age, fat class and weight profile of animals sent to slaughter



Discussion



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