

GRASS-BASED ORGANIC BEEF OF HIGH EATING QUALITY - GROBEAT



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BACKGROUND

The Organic dairy production is successful in Denmark – approx. 13 % of the milk production is organic (Danmarks Statistik)

Each dairy cow get a calf every year - however

Most organic bull calves from dairy production in Denmark are sold to conventional fattening.

Only a few steers (2½ years) are produced within the organic system

The organic system builds on a holistic approach – keep all resources also calves in the organic system

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CARBON FOOTPRINT FROM DIFFERENT PRODUCTION SYSTEMS IN DENMARK



Mogensen et al. 2015 – Livestock Science



AIM GROBEAT PROJECT

Invent a novel beef production strategy for the organic sector that offers a diversity of beef products, which all score high in relation to

- Animal welfare
- Biodiversity
- Climate

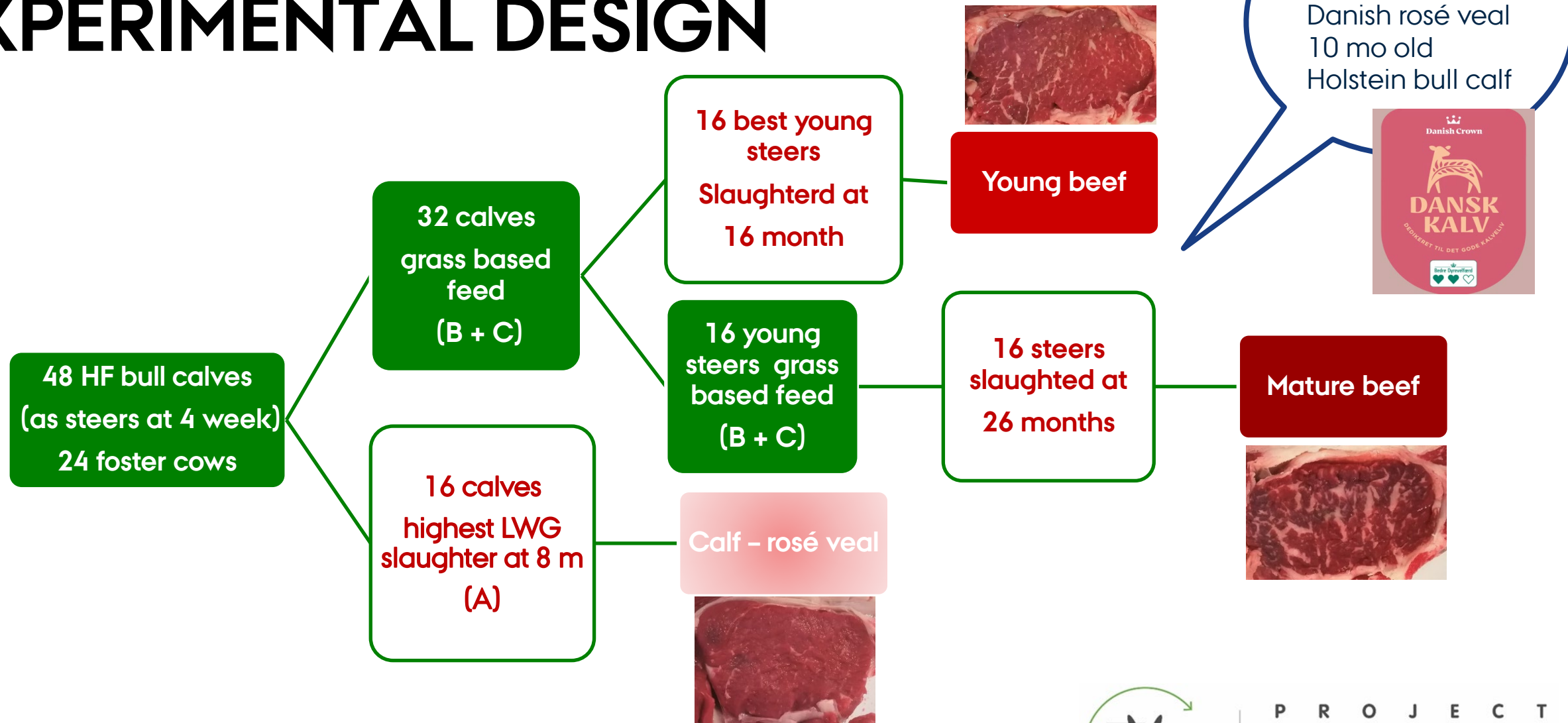
Furthermore, the idea is that meat- and sensory quality of the beef products - together with the storytelling of the production system will address :

“less is more”

Thereby facilitates healthier eating of the consumers, and provide the organic dairy sector with credibility for **“license to produce”**



EXPERIMENTAL DESIGN



RESULTS



SLAUGHTER QUALITY – DANISH VERSUS GROBEAT



	Reference Dansk kalv	GrOBEat – Calf – rosé veal	GrOBEat – Young Beef	GrOBEat - Beef	SEM	Significance
Number of Animals	36	16	16	16		
Slaughter age, mo	9,5	8	16	26		
Slaughter weight, Kg	212	180	259	358	4,1	***



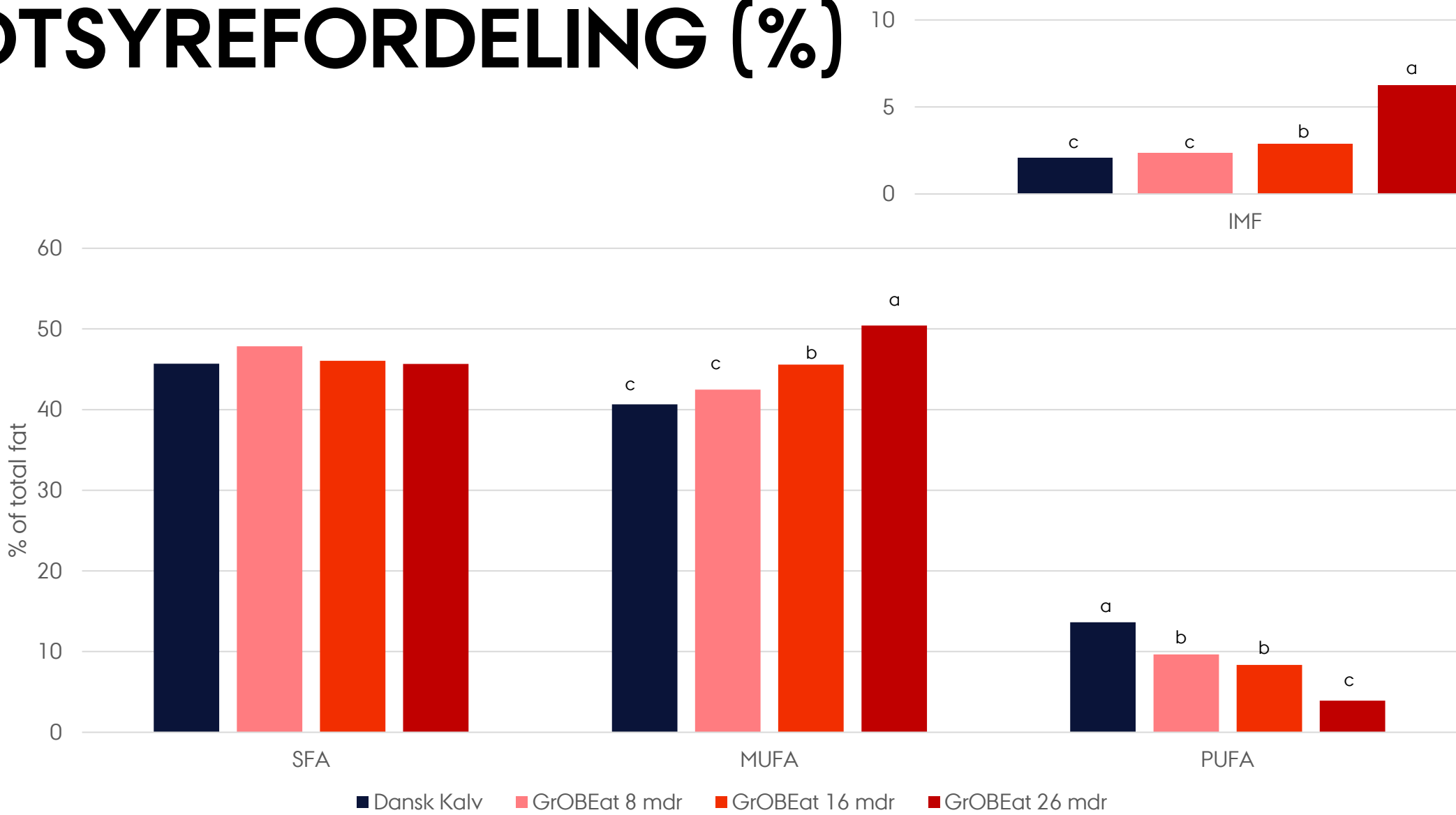
MEAT QUALITY - FILET – DANISH VEAL VERSUS GROBEAT



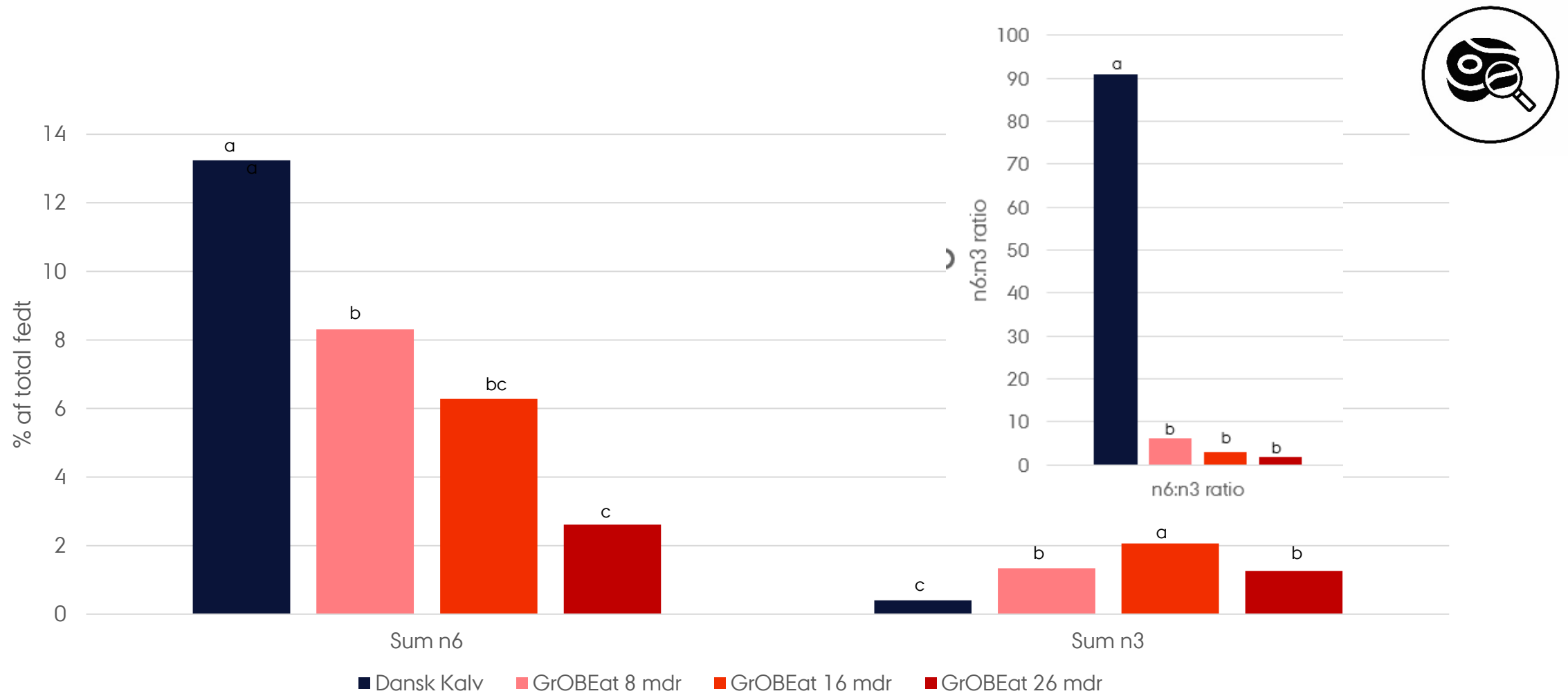
	Reference Dansk Kalv	GrOBEat – Calf - rosé veal	GrOBEat – Young beef	GrOBEat – Mature beef	SEM	Significanc e
Number of Animals	31	16	16	16		
Color of meat Lightness L*	39	39	34	35	0,45	***
Redness, a*	19,1	18,1	20,5	21,5	0,42	***
Yellowness, b*	6,8	7,2	7,0	7,4	0,21	NS
Intramuscular fat, %	2,1	2,3	2,9	6,2	0,29	***



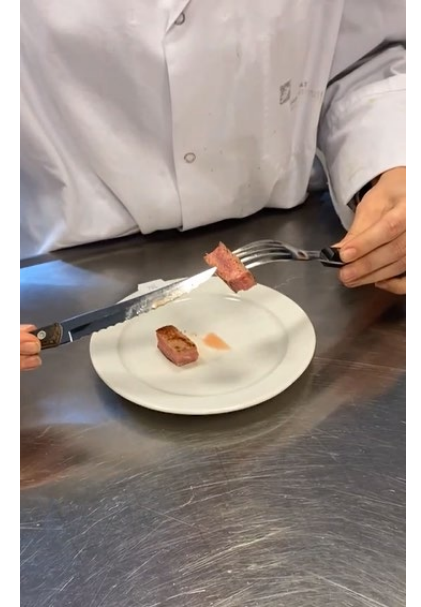
FEDTSYREFORDELING (%)



SUM OF OMEGA 6 AND 3 FATTY ACIDS (%)



SENSORY PROFILE ANALYSIS



- Filet aged for 10 days
- Prepared to 63°C
- Profiled by 8 trained judges



EATING QUALITY - FILET – DANISH VEAL VERSUS GROBEAT



	Reference Dansk Kalv	GrOBEat – Calf – rosé veal	GrOBEat – Young beef	GrOBEat – Mature beef	SEM	Significanc e
Number of Animals	31	16	16	16		
Fried meat aroma	9,3	9,5	9,2	10,6	0,27	***
Fried meat flavor	8,4	9,1	9,8	9,9	0,28	***
Juiciness	9,1	10,5	9,9	10,2	0,42	*
Tenderness	5,9	8,5	8,7	8,1	0,71	***



CONCLUSION – MEAT AND EATING QUAL



GrOBEat calf – an organic product comparable to Dansk Kalv

- + meat flavor and tenderness
- + less n6, more n3 essential fatty acids
- + cow-calf interaction and grazing

GrOBEat young beef – an organic product with moderate fat content and darker meat than Dansk Kalv

- + meat arom, meat flavor and tenderness
- + less n6, more n3 essential fatty acids
- + cow-calf interaction and grazing

GrOBEat beef – an organic fat-marbled product, with a meat colour comparable to mature beef

- + meat arom, meat flavor, tenderness and juiciness
- + less n6, more n3 essential fatty acids
- + cow-calf interaction, grazing and extensive grazing



Meat from the **GrOBEat concept** can deliver meat with **essential fatty acids** (n3) – which contribute to the dietary recommendation, but only cover a small proportion of recommended daily intake compared to e.g. salmon.



Thank you for your attention



Kvægafgiftsfonden