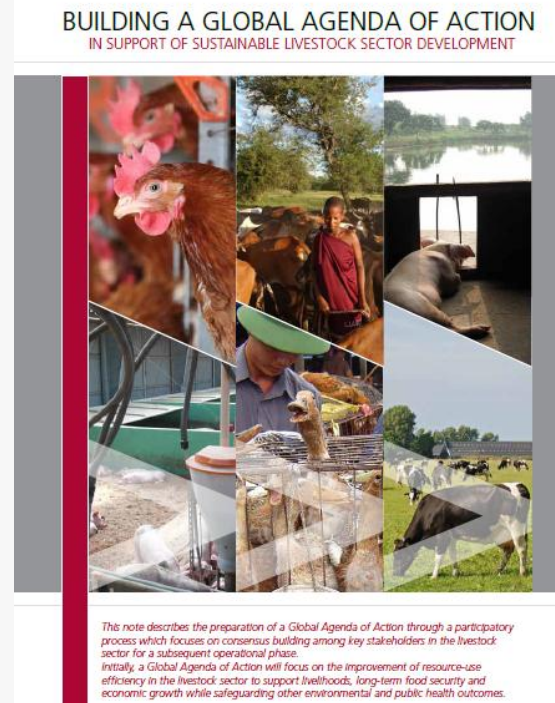

**Closing the efficiency gap – a contribution from
European Feed Industry**

BY
Ruud Tijssens
Agrifirm – the Netherlands
November 7th, 2012

Main challenges

- Feeding 9 billion – land is scarce
- Climate change – GHG emissions
- Limited resources

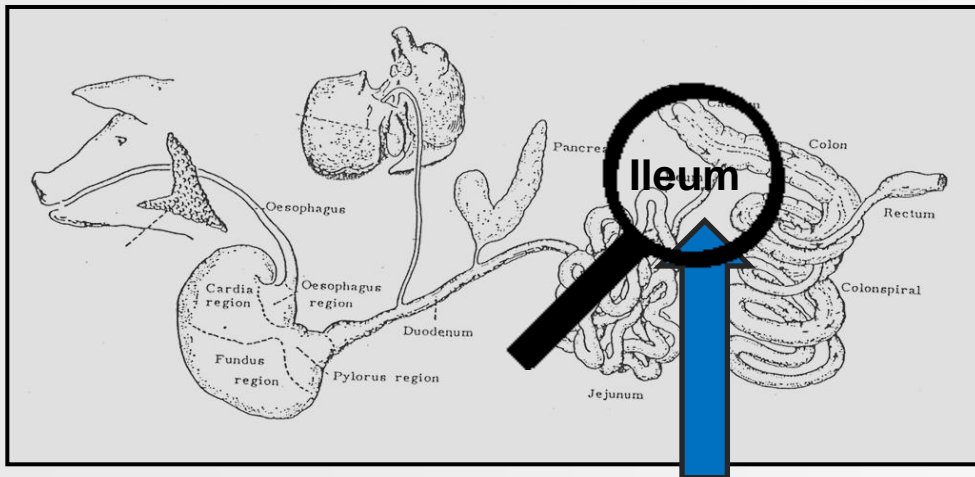


Role European Feed Industry: Mixing, milling and transport?



The right nutrient at the right time at the right place

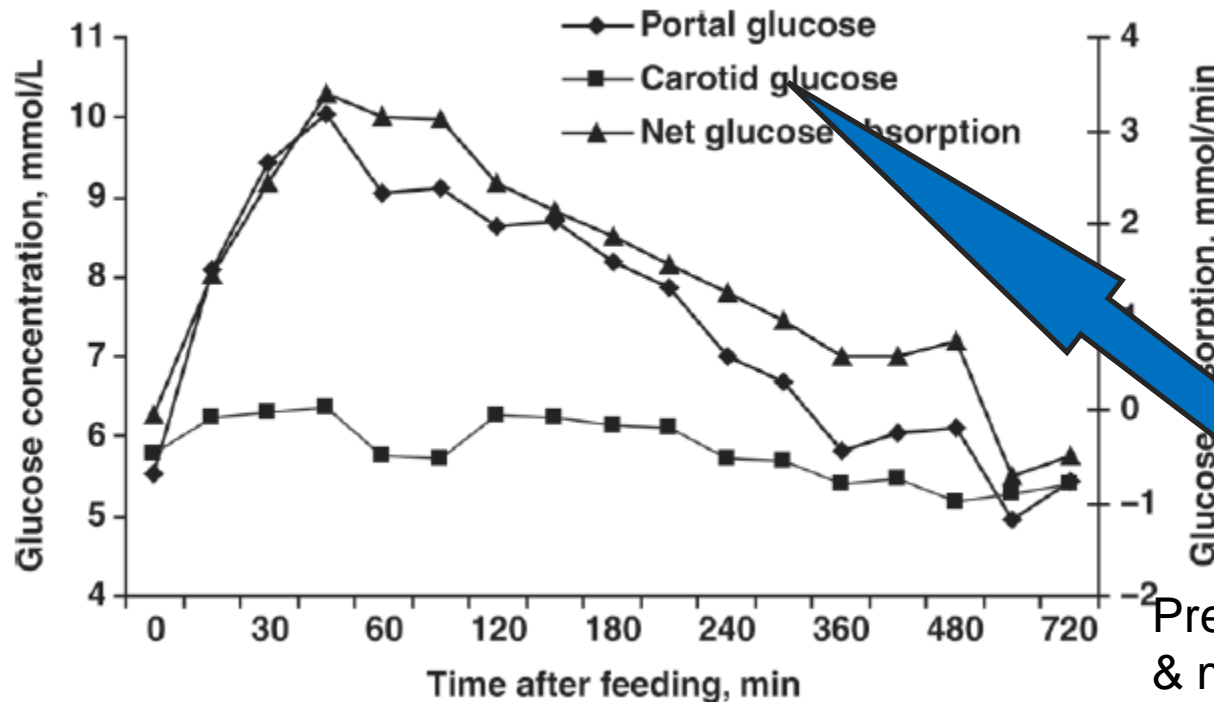
- It's all about digestibility and necessity



Measurements

The right nutrient at the right time at the right place

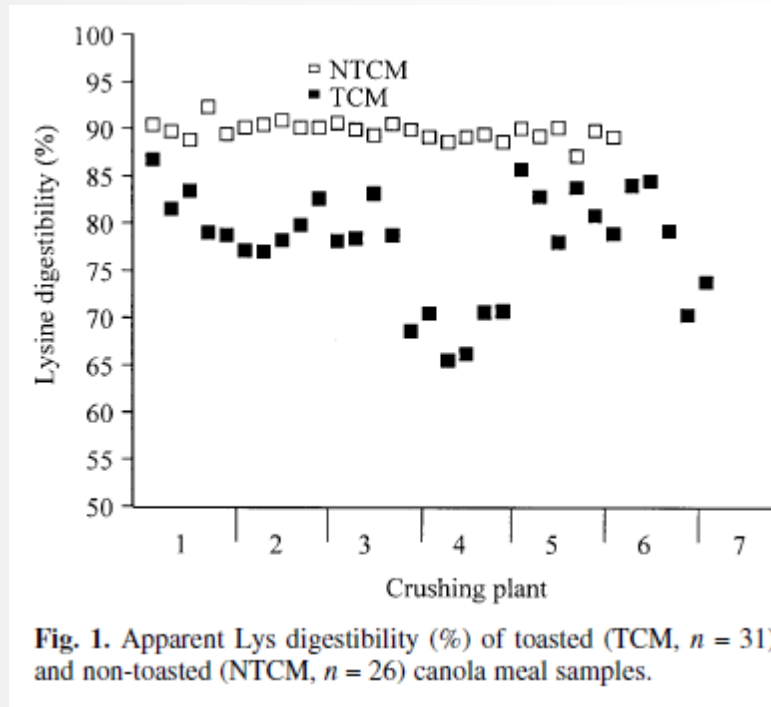
- It's all about digestibility and necessity



Predictive validated models
& measurements

Feed Value & Feeding norms

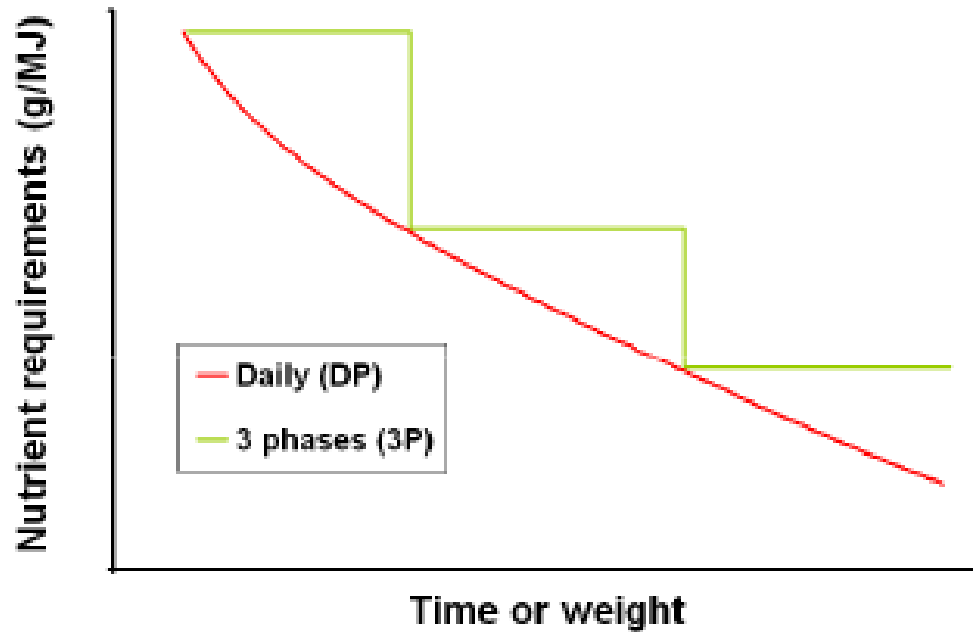
- Influence of raw material
- Processing



Feed value & Feeding norms

- Two types of animals:
 - Growing animals → pigs, broilers, calves, beef
 - Steady animals → producing eggs, milk
- Steady is never steady: pregnancy, health status

Feed value & Feeding norms



Pomar, et. Al 1998

Feed value & Feeding norms

Feeding pigs with daily tailored diets reduced N and P intake respectively by **25% and 29%**, and the corresponding excretions were reduced both near **40%**

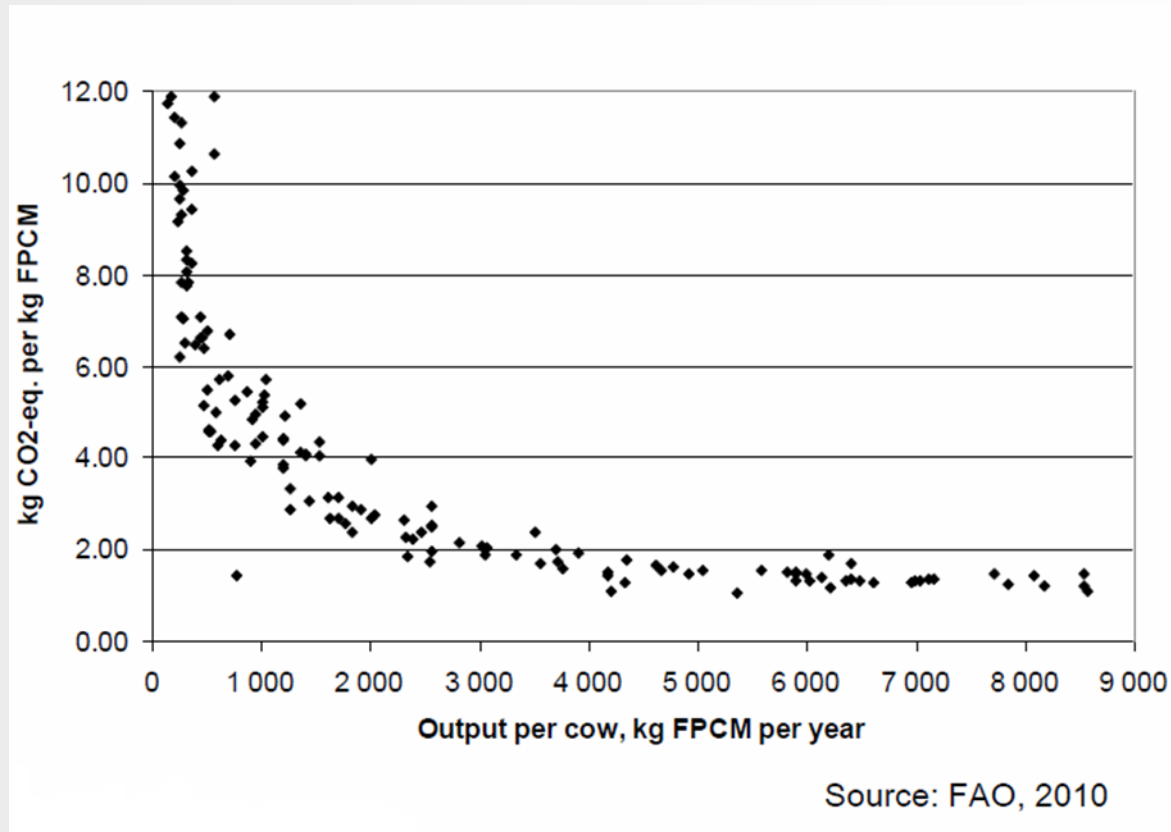
	Feeding method		SEM	P value	Δ, %
	Three-phase feeding program	Individually daily tailored diets			
Feed cost/ADG, \$/kg	1.022	0.974	0.006	0.0001	4.7
N intake, kg	5.69	4.29	0.050	0.0001	25
N excretion, kg	3.61	2.21	0.043	0.0001	39
N retention, kg	2.08	2.08	0.018	0.9090	0
P intake, kg	0.91	0.65	0.007	0.0001	29
P excretion, kg	0.49	0.30	0.005	0.0001	40
P retention, kg	0.35	0.35	0.003	0.9090	0

Pomar, et. Al 1998

European Feed Industry:

- Efficient and fast prediction of real feed value
- Efficient prediction of real utilisation and delivery of nutrients

Positive relationship between GHG-emission and productivity



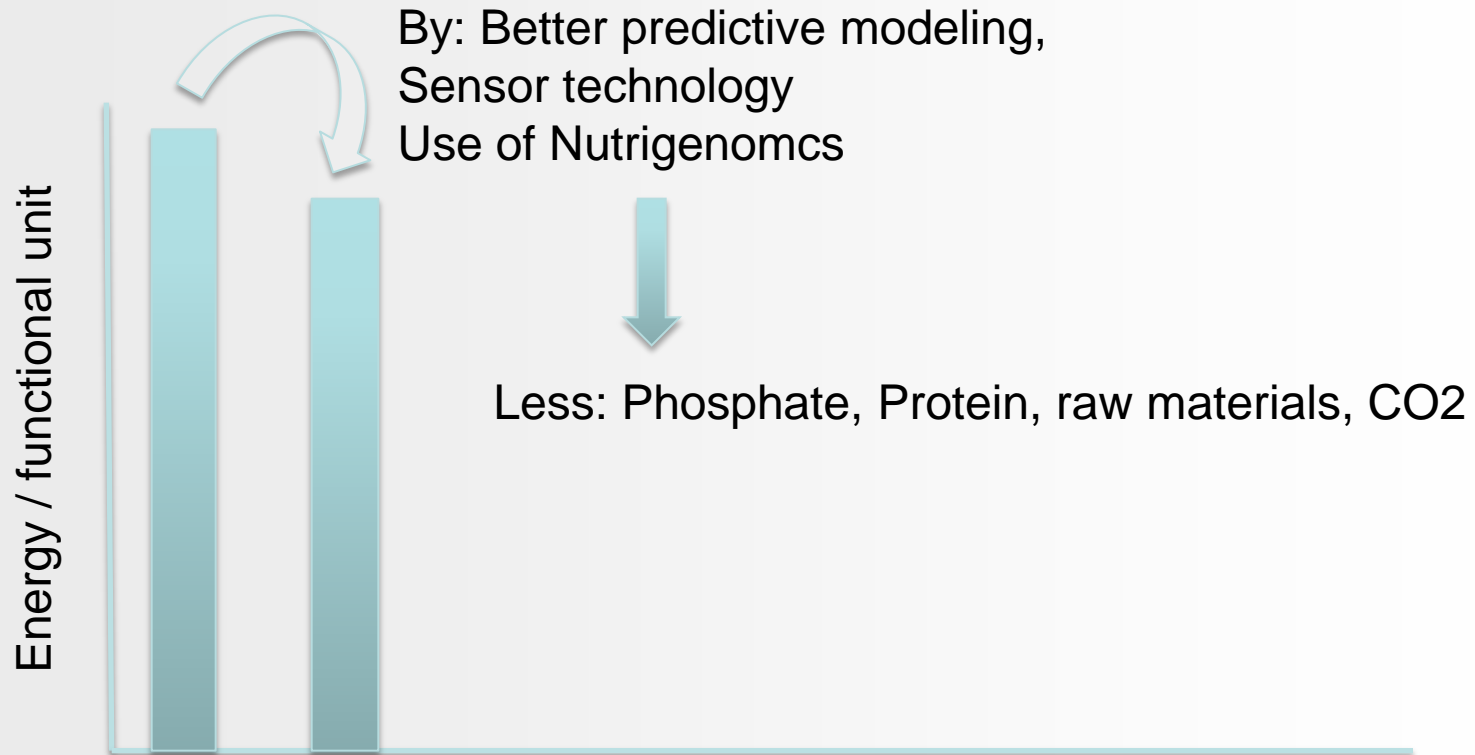
Feed industries contribution to global problems

Sector	Technology	Landuse	GHG	Resource efficiency
		M2/kg fu	Kg CO2/kg fu	% co-products
Pig Dutch	Conventional (baseline)	6,4	4,89	40,4
Pig Dutch	High energy feed	6,0 (-6,0%)	4,65 (-4,9%)	32,7 (-9,0%)
Broiler Dutch	Conventional (baseline)	4,9	3,5	33,4
Broiler Dutch	Local grains completed with high protein concentrate	4,9 (+/-)*	3,4 (-2,4%)	33,2 (+/-)
Layer Dutch	Conventional (baseline)	4,7	2,0	33,5
Layer Dutch	High fiber concept	4,5 (-3,0%)	1,937 (-3,0%)	36,5 (+3,0%)

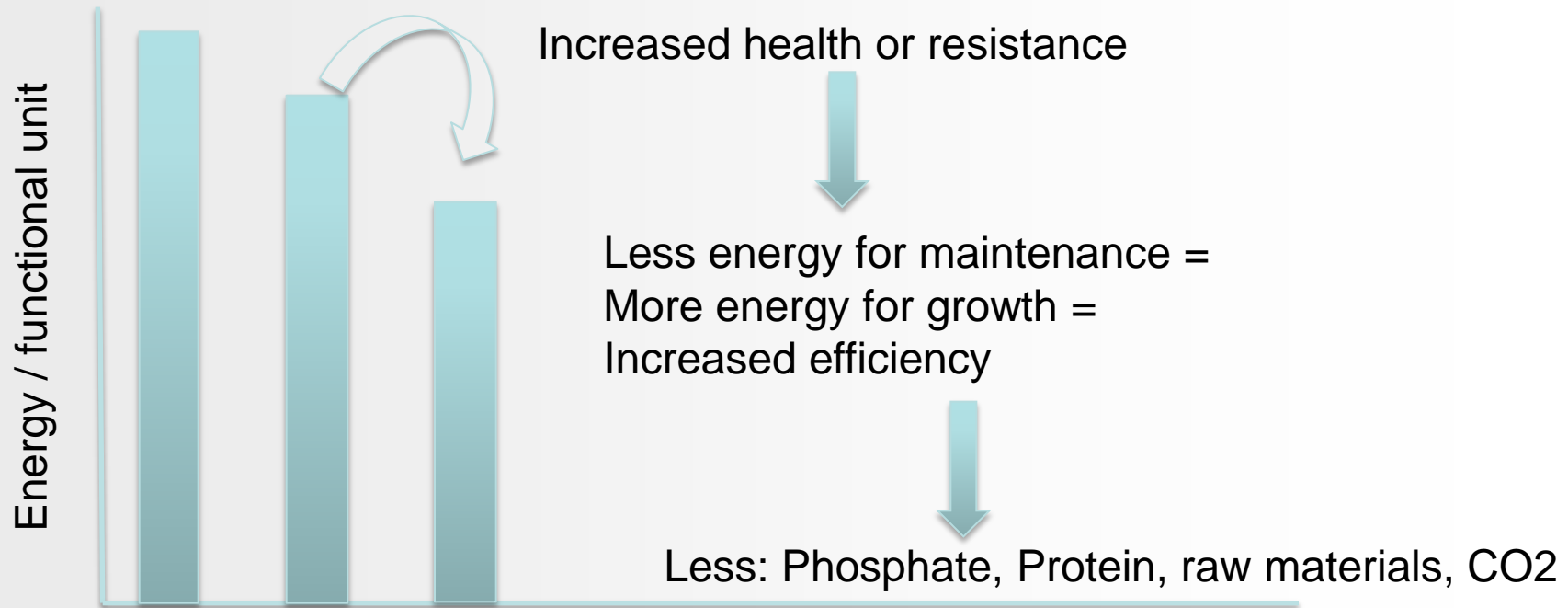
European Feed Research agenda

- Optimizing resource efficiency by using nutrients efficiently
- Healthy animals for healthy consumers
- Social responsible livestock farming

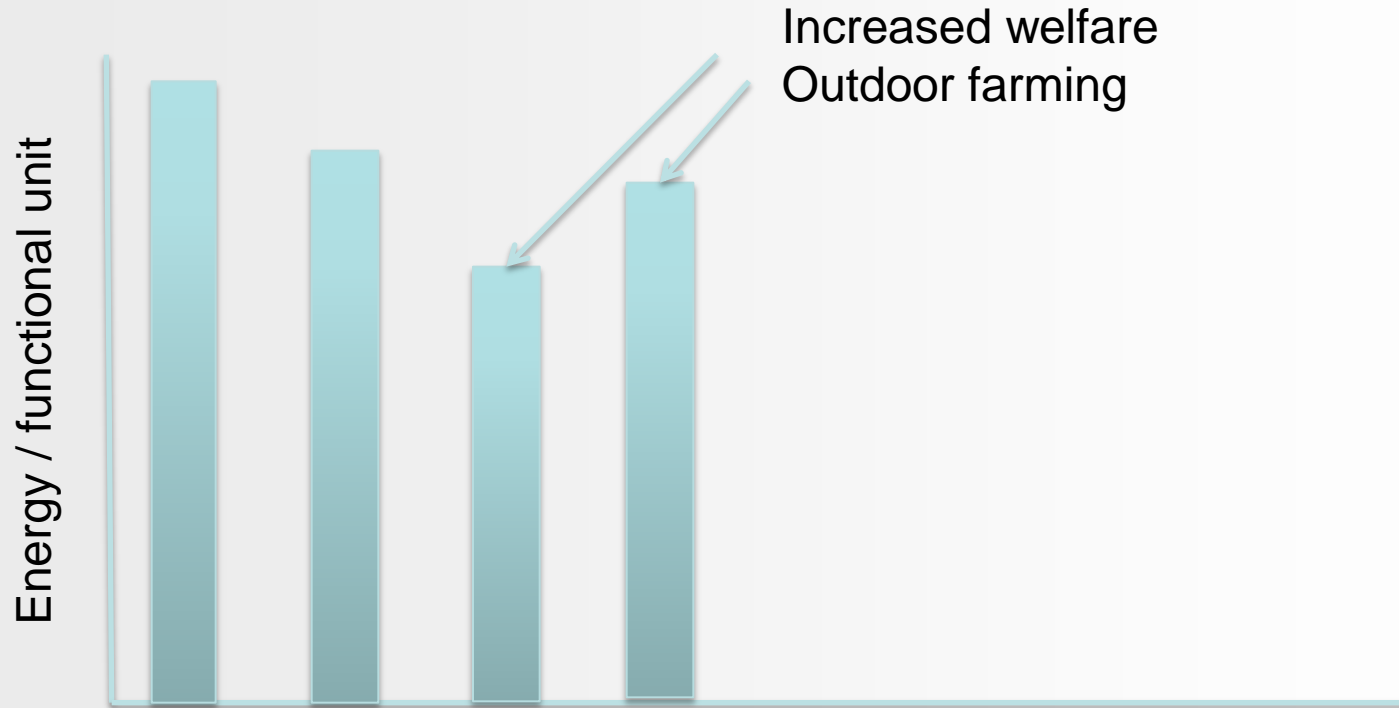
- Optimizing resource efficiency by using nutrients efficiently
 - Healthy animals for healthy consumers
 - Social responsible livestock farming
-



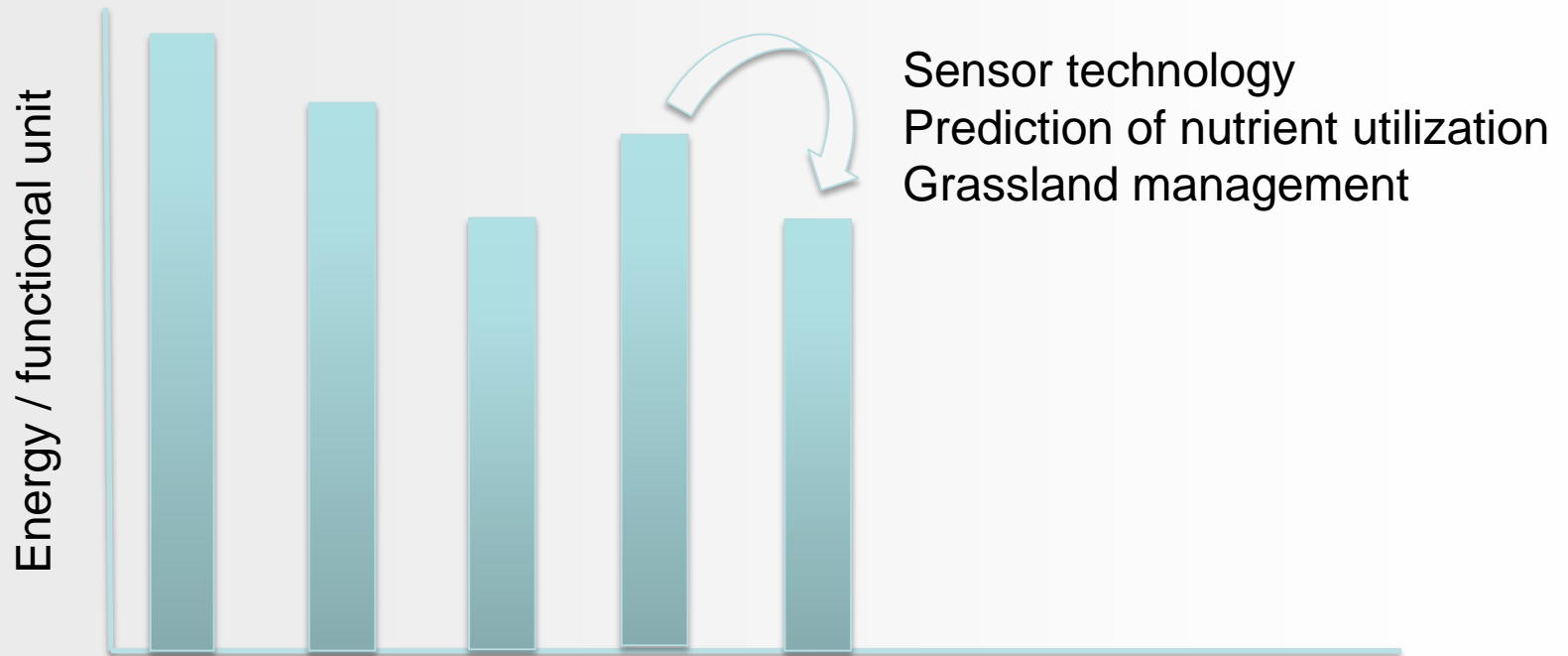
- Optimizing resource efficiency by using nutrients efficiently
 - Healthy animals for healthy consumers
 - Social responsible livestock farming
-



- Optimizing resource efficiency by using nutrients efficiently
 - Healthy animals for healthy consumers
 - Social responsible livestock farming
-



- Optimizing resource efficiency by using nutrients efficiently
 - Healthy animals for healthy consumers
 - Social responsible livestock farming
-



Some more specific subjects

- Validated models for gut health and immunity
- Model prediction for feed utilization norms
- Fast screening technology for nutrient need
- Nutrient intake determination under grazing conditions
- Alternative protein sources, including NW-European Soy

Conclusions

- By developing and implementing new technologies a lot to gain
- Healthy animals are key for social acceptance and efficiency
- And social developments will ask new breakthroughs

Contact



www.eufetec.eu
info@eufetec.eu



**Gasthuisstraat 31,
1000 Brussels
Tel: +32 (0)2/512.09.55
Fax: +32 (0)2/514.03.51**

