



Maximising Animal Performance At Grass

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THE KEY TO ANIMAL PERFORMANCE IS

NUTRIENT INTAKE:

- » energy
- » protein
- » minerals
- » trace elements
- » vitamins
- » water

FACTORS AFFECTING NUTRIENT INTAKE

Feed availability

Feed quality

**digestibility (D value)
palatability/intake potential**

**Grass quality
& availability
changes
during the
season!**



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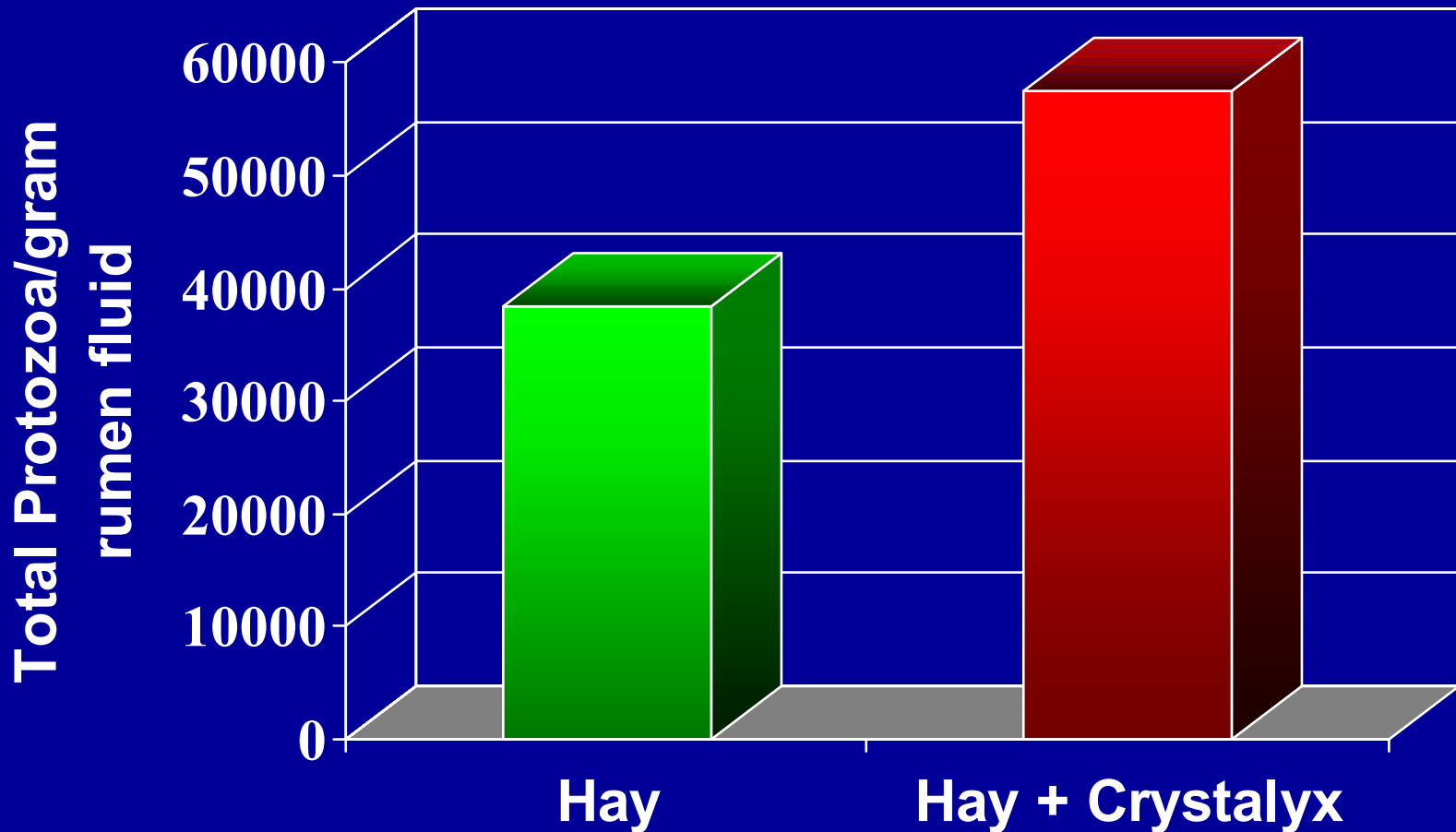
Department of Agriculture



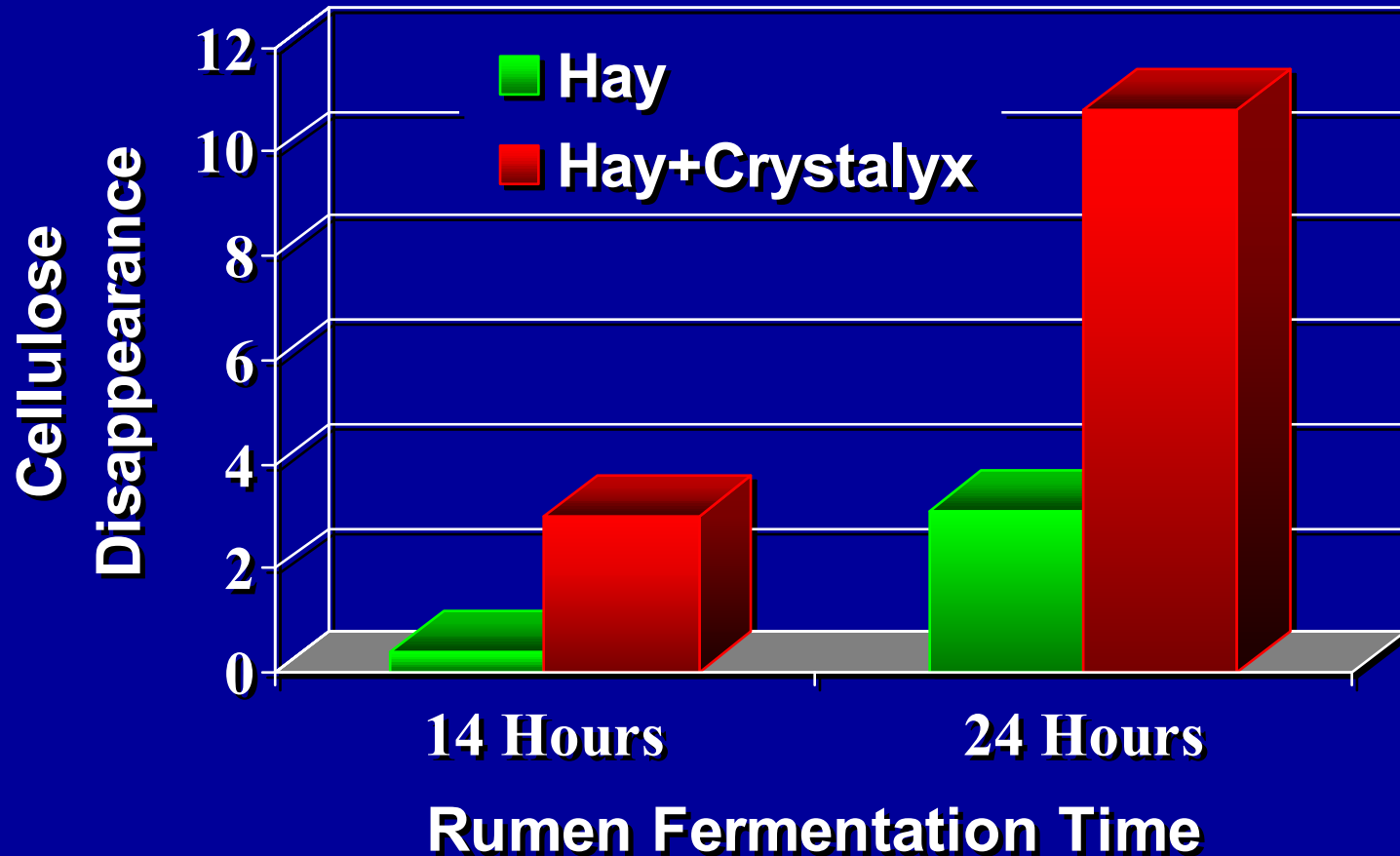
RESEARCH RESULTS



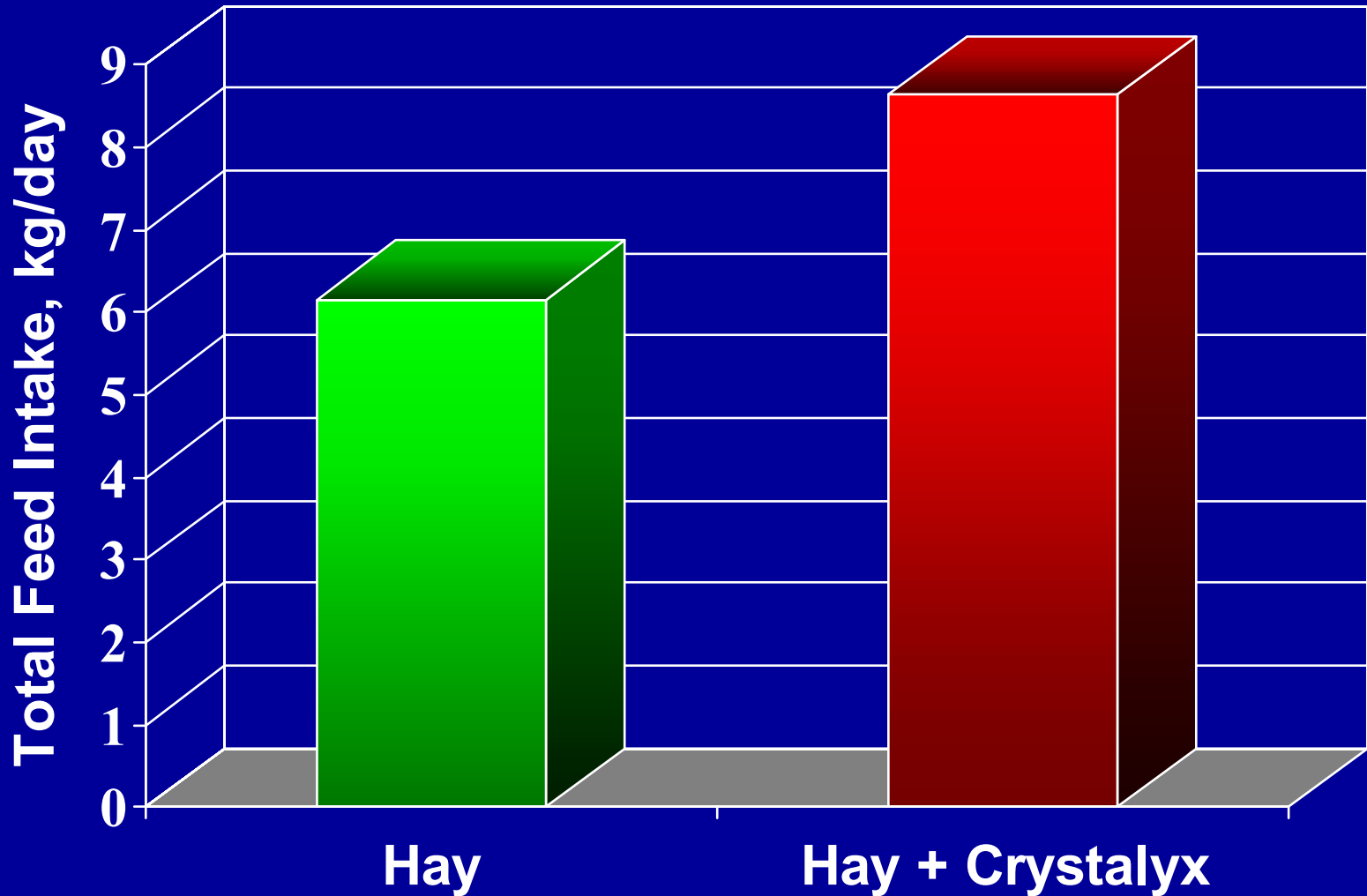
Effects on Microbial Populations



Effects on Cellulose Digestion



Effects on Total Feed Intake





Newcastle University

in-vitro trial 2

RESULTS

Increases in predicted degradability (**RATE**)

	Spring	Autumn
Grass/clover	+ 4.4%	+ 3.0%
Ryegrass	+ 9.7%	+ 5.2%
Perm. Pasture	+ 4.0%	+ 9.9%
Average	+ 6.0%	+ 6.0%



Newcastle University

in-vitro trial 2

RESULTS

Increases in DM disappearance (**DIGESTIBILITY**)

	Spring	Autumn
Grass/clover	+ 5.3%	+ 3.4%
Ryegrass	+10.1%	+ 6.3%
Perm. Pasture	+ 3.9%	+10.7%
Average	+ 6.4%	+ 6.8%

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RESEARCH INTO PRACTICE



SAC Heifer Turnout Trial

120 crossbred yearling beef heifers split into 2 equal groups at turnout onto spring grass:

Results

	23 rd April	7 th June
Control (kg LW)	325	373 (1.06 kg/d)
Crystalyx (kg LW)	324	377 (1.19 kg/d) +12.3%

Crystalyx intakes averaged 68 g/head/day during the period

SAC HEIFER TURNOUT TRIAL

FINANCIAL RESULTS

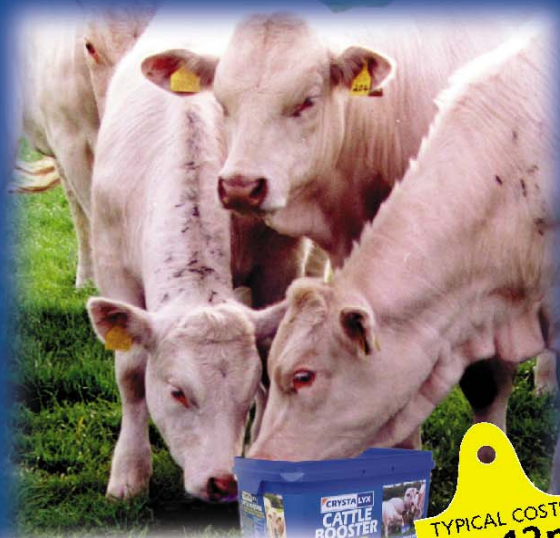
Extra L.wt for Crystalyx = 5kg/head
Added value @ £1.10/kg = £5.50/head
Cost of Crystalyx = £1.80/head

Benefit to feeding Crystalyx £3.70/head

DOUBLE YOUR MONEY

Feeding Crystalyx at grass

READY FOR TURNOUT?



CATTLE BOOSTER

Grass is the
cheapest feed available
to farmers - make full
use of it!

* Grazing heifers fed Crystalyx Cattle
Booster gained **5kg more** liveweight
than equivalent heifers on grass alone -
worth at least **£5.50**
with an investment in Crystalyx of
only **£1.80** per heifer.

You can double your money
with Crystalyx Cattle Booster

TYPICAL COSTS
9 - 12p
per beast per day
at grass.



Available in 80kg Tublyx,
40kg Midi-tubs and 22.5kg Mini-tubs

* Research
carried out at
SAC



Newcastle University

Youngstock Trial 1

- **Animals**
 - 2 x 20 Holstein x Friesian & Limousin X heifers
 - Initial liveweight approx 250 kg
- **Grass type**
 - Ryegrass/red clover
 - In final year of organic conversion
- **Feed**
 - Ad libitum grazing
 - 0.9 kg dry feed/head/day
 - + **Cattle Booster** to Crystalyx group.



Youngstock Trial 1

RESULTS

	CONTROL	CRYSTALYX
Initial weight (kg)	252	250
Final weight (kg)	346	352
Total gain (74 days)	94	102 (+8kg)
Daily LWt gain (kg)	1.27	1.38 (+8.7%)

Average Crystalyx intake was 91g/head/day



Youngstock Trial 1

FINANCIAL RESULTS

Extra L.wt for Crystalyx = 8kg/head

Added value @ £1.10/kg = £8.80/head

Cost of Crystalyx = £4.18/head

Benefit to feeding Crystalyx £4.62/head

DOUBLE YOUR MONEY

Feeding Crystalyx at grass

DOUBLE YOUR MONEY

**WITH CRYSTALYX
AT GRASS**



CATTLE BOOSTER

Further trials at Newcastle University have shown again that feeding Crystalyx Cattle Booster improves animal performance

**IT REALLY DOES
TAKE SOME LICKING!**





Newcastle University

Youngstock Trial 2

- **Animals**

- 2 x 15 Holstein x Friesian heifers
- Initial liveweight approx 340 kg

- **Grass type**

- Perennial Ryegrass (very little clover content)
- 1st cut silage aftermath (2 x 3.6 hectare paddocks)
- Light sandy loam underlying soil

- **Feed**

- Ad libitum grazing
- + **Cattle Booster** to Crystalyx group



Youngstock Trial 2

RESULTS Period 1

(23rd June – 15th July)

	CONTROL	CRYSTALYX
Initial weight (kg)	340	339
Final weight (kg)	364	373
Total gain (22 days)	24	34 (+10kg)
Daily LWt gain (kg)	1.09	1.55 (+42%)

Average Crystalyx intake was 330g/head/day
Grass height = 9.5 -> 8.0 cm in period



Youngstock Trial 2

FINANCIAL RESULTS – Period 1

Extra L.wt for Crystalyx	=	10kg/head
Added value @ £1.10/kg	=	£11.00/head
Cost of Crystalyx	=	£4.50/head

Benefit to feeding Crystalyx £6.50/head

DOUBLE YOUR MONEY

Feeding Crystalyx at grass



Youngstock Trial 2

PERIOD 2 (11/8 – 29/9)

- Grass availability declined markedly, especially for the Crystalyx group
- Straw was offered to both groups as big bales in ring feeders, replenished as necessary
- Bale weight approx 180kg, (~ 90% eaten)

	Control	Crystalyx
22 nd August	bale 1	bale 1
5 th September	-	bale 2
12 th September	-	bale 3
19 th September	bale 2	bale 4



Youngstock Trial 2

RESULTS PERIOD 2 (11/8 – 29/9)

	CONTROL	CRYSTALYX
Final grass ht (cm)	4.8	4.5
Straw intake (kg/day)	0.4	1.8
Initial weight (kg)	390.7	386.5
Final weight (kg)	430.3	432.3
Total gain (49 days)	39.6	45.8
Daily LWt gain (kg)	0.81	0.93 (+15%)

Average Crystalyx intake was 330g/head/day



Youngstock Trial 2

OVERALL RESULTS

(Period 1 & 2)

CONTROL

CRYSTALYX

Daily LWt gain (kg)

0.90

1.12 (+25%)

Liveweight gains much more consistent and uniform in the Crystalyx heifers

Cattle Booster Trial - Germany



Full grazing season trial
126 heifers, split into 2 groups

CATTLE BOOSTER TRIAL

Germany (Overall results)

	Control	Crystalyx	
Start 8 th May (kg)	478	492	
Final 30 th Oct (kg)	584	635	
Average LWG (kg):			
in total (175 days)	106	143	(+37kg)
per day	0.60	0.82	(+36%)

**Average Crystalyx intakes were 130g per day
(only 10p/heifer/day)**

GERMAN CATTLE BOOSTER TRIAL

FINANCIAL RESULTS

Extra L.wt for Crystalyx = 37 kg/head
Added value @ £1.10/kg = £40.70/head
Cost of Crystalyx = £17.50/head

Benefit to feeding Crystalyx £23.20/head

DOUBLE YOUR MONEY

Feeding Crystalyx at grass

CATTLE BOOSTER TRIAL

Germany, (Fertility Results)

	Control	Crystalyx
Total heifers	60	66
Heifers pregnant	48	61
% pregnant	80%	92%

**+12% more heifers pregnant
by feeding Crystalyx!**

for only 10p/heifer/day!!



Cattle Booster

**-There is no better
supplement to maximise
cattle performance at
grass!**

Omega-3 fatty acids

Essential fatty acids for human & animal health with vital roles in:

- Immunity & disease resistance
- Anti-inflammatory response to infection
- Reduce the risk of heart disease & blood clots

Certain Fish oils are high in omega-3 fatty acids (eg Cod Liver Oil)

Linseed (Flaxseed) is also high in omega-3 oil: **alpha-linolenic acid (ALA)**.

Healthy Beef from Grass

- **Approx 67% of the oil in grass & clover is omega-3 (alpha-linolenic acid) (IGER)**
- **Grass-fed beef is typically leaner (than silage or grain-fed beef)**
- **Grass-fed beef contains a higher level of omega-3 fatty acids**

Effect of diet on Omega-3 content of beef (mg/100g muscle) (IGER)

Diet total fat ALA total omega-3

Silage+cpd(60:40 DM basis)

sat. fat 3659 20 54

linseed 3618 38 81

fish oil 4400 27 80

**grass/white
clover 3411 66 131**

DoH RDI = 200mg/day omega-3

Conclusions

- Beef muscle is a low fat food
- The fat profile of beef can be influenced by dietary lipid sources
- Beef from grass-fed cattle has a “healthy” profile of fatty acids for the consumer
- Increase the availability of grass-fed beef by improving animal performance at grass – with **Crystalyx!**



Thank you!

THE END.